**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3
AMENDED REPORT ☑

| APPLICATION FOR PERMIT TO DRILL | 1. WELL NAME and NUMBER: NBU 1022-9C3CS |
|---|---|
| 2. TYPE OF WORK: DRILL NEW WELL ◉ REENTER P&A WELL ○ DEEPEN WELL ○ | 3. FIELD OR WILDCAT: NATURAL BUTTES |
| 4. TYPE OF WELL: Gas Well Coalbed Methane Well: NO | 5. UNIT or COMMUNITIZATION AGREEMENT NAME: NATURAL BUTTES |
| 6. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. | 7. OPERATOR PHONE: 720 929-6587 |
| 8. ADDRESS OF OPERATOR: P.O. Box 173779, Denver, CO, 80217 | 9. OPERATOR E-MAIL: mary.mondragon@anadarko.com |
| 10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE): UTU 01196B<br>11. MINERAL OWNERSHIP: FEDERAL ◉ INDIAN ○ STATE ○ FEE ○ | 12. SURFACE OWNERSHIP: FEDERAL ◉ INDIAN ○ STATE ○ FEE ○ |
| 13. NAME OF SURFACE OWNER (if box 12 = 'fee') | 14. SURFACE OWNER PHONE (if box 12 = 'fee') |
| 15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee') | 16. SURFACE OWNER E-MAIL (if box 12 = 'fee') |
| 17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')<br>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS: YES ◉ (Submit Commingling Application) NO ○ | 19. SLANT: VERTICAL ○ DIRECTIONAL ◉ HORIZONTAL ○ |

| 20. LOCATION OF WELL | FOOTAGES | QTR-QTR | SECTION | TOWNSHIP | RANGE | MERIDIAN |
|---|---|---|---|---|---|---|
| LOCATION AT SURFACE | 225 FNL 2583 FWL | NENW | 9 | 10.0 S | 22.0 E | S |
| Top of Uppermost Producing Zone | 1131 FNL 1548 FWL | NENW | 9 | 10.0 S | 22.0 E | S |
| At Total Depth | 1131 FNL 1548 FWL | NENW | 9 | 10.0 S | 22.0 E | S |

| 21. COUNTY | 22. DISTANCE TO NEAREST LEASE LINE (Feet) | 23. NUMBER OF ACRES IN DRILLING UNIT |
|---|---|---|
| UINTAH | 1131 | 320 |
| | 25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed): 590 | 26. PROPOSED DEPTH: MD: 9247 TVD: 8950 |
| 27. ELEVATION - GROUND LEVEL: 5191 | 28. BOND NUMBER: WYB000291 | 29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE: Permit #43-8496 |

## ATTACHMENTS

**VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

| | |
|---|---|
| ☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER | ☑ COMPLETE DRILLING PLAN |
| ☐ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE) | ☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER |
| ☑ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED) | ☑ TOPOGRAPHICAL MAP |

| NAME Danielle Piernot | TITLE Regulatory Analyst | PHONE 720 929-6156 |
|---|---|---|
| SIGNATURE | DATE 09/11/2009 | EMAIL danielle.piernot@anadarko.com |

**API NUMBER ASSIGNED**
43047507390000

**APPROVAL**

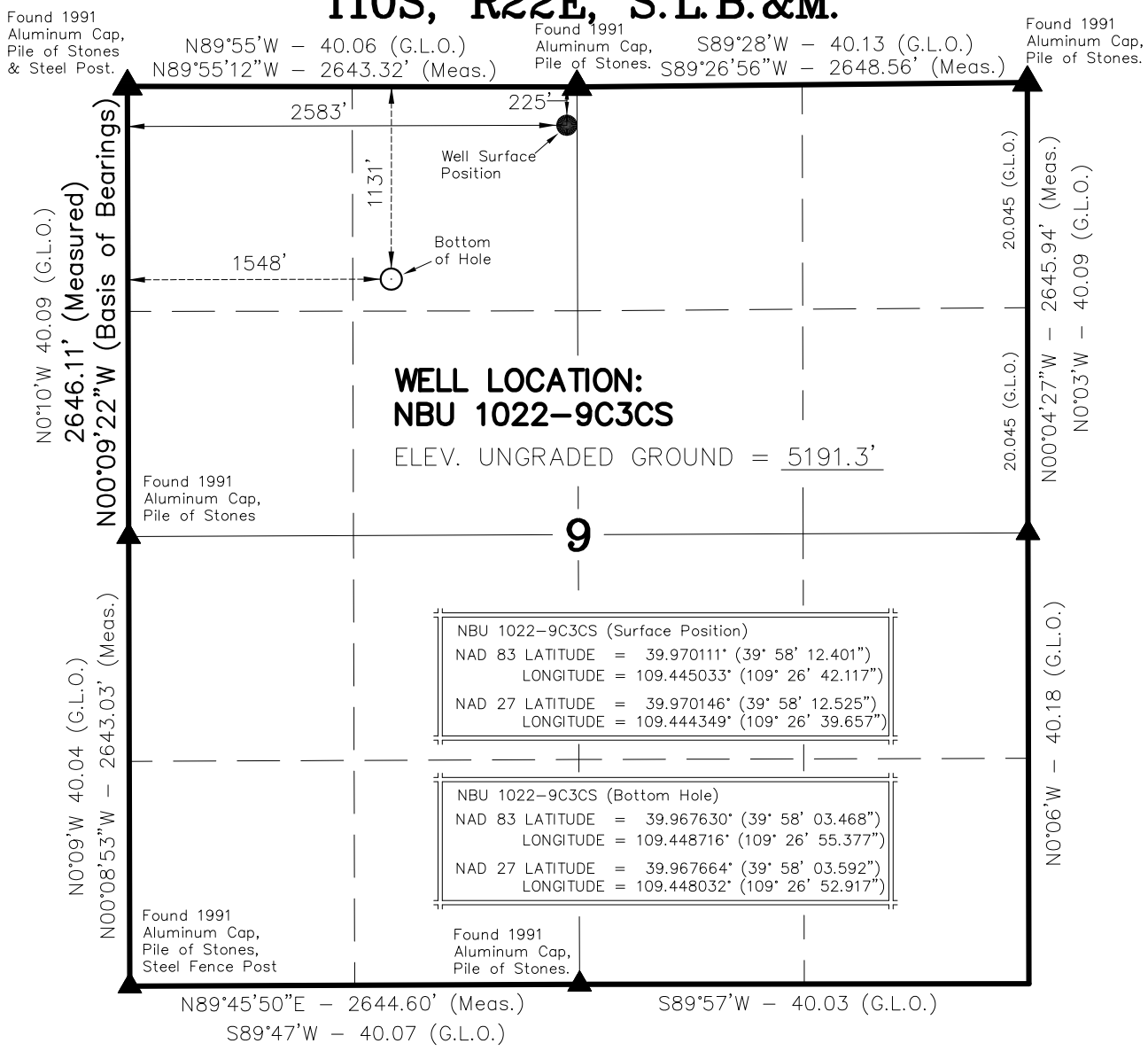
Permit Manager

| Proposed Hole, Casing, and Cement | | | | | | |
|---|---|---|---|---|---|---|
| **String** | **Hole Size** | **Casing Size** | **Top (MD)** | **Bottom (MD)** | | |
| Prod | 7.875 | 4.5 | 0 | 9247 | | |
| **Pipe** | **Grade** | **Length** | **Weight** | | | |
| | Grade I-80 Buttress | 9247 | 11.6 | | | |
| | | | | | | |

| Proposed Hole, Casing, and Cement | | | | | | |
|---|---|---|---|---|---|---|
| **String** | **Hole Size** | **Casing Size** | **Top (MD)** | **Bottom (MD)** | | |
| Surf | 12.25 | 9.625 | 0 | 2185 | | |
| **Pipe** | **Grade** | **Length** | **Weight** | | | |
| | Grade J-55 LT&C | 2185 | 36.0 | | | |
| | | | | | | |

'APIWellNo:43047507390000'

# T10S, R22E, S.L.B.&M.




NOTES:

▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears S48°47'04"W 1372.56' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

N

1000' 500' 0' 1000'

SCALE

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR No.362251 KOLBY R. KAY STATE OF UTAH

REGISTERED LAND SURVEYOR
REGISTRATION No. 362251
STATE OF UTAH

Kerr-McGee
Oil & Gas Onshore, LP
1099 18th Street – Denver, Colorado 80202

NBU 1022-9C3CS
WELL PLAT
1131' FNL, 1548' FWL (Bottom Hole)
NE ¼ NW ¼ OF SECTION 9, T10S, R22E,
S.L.B.&M. UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST – VERNAL, UTAH 84078

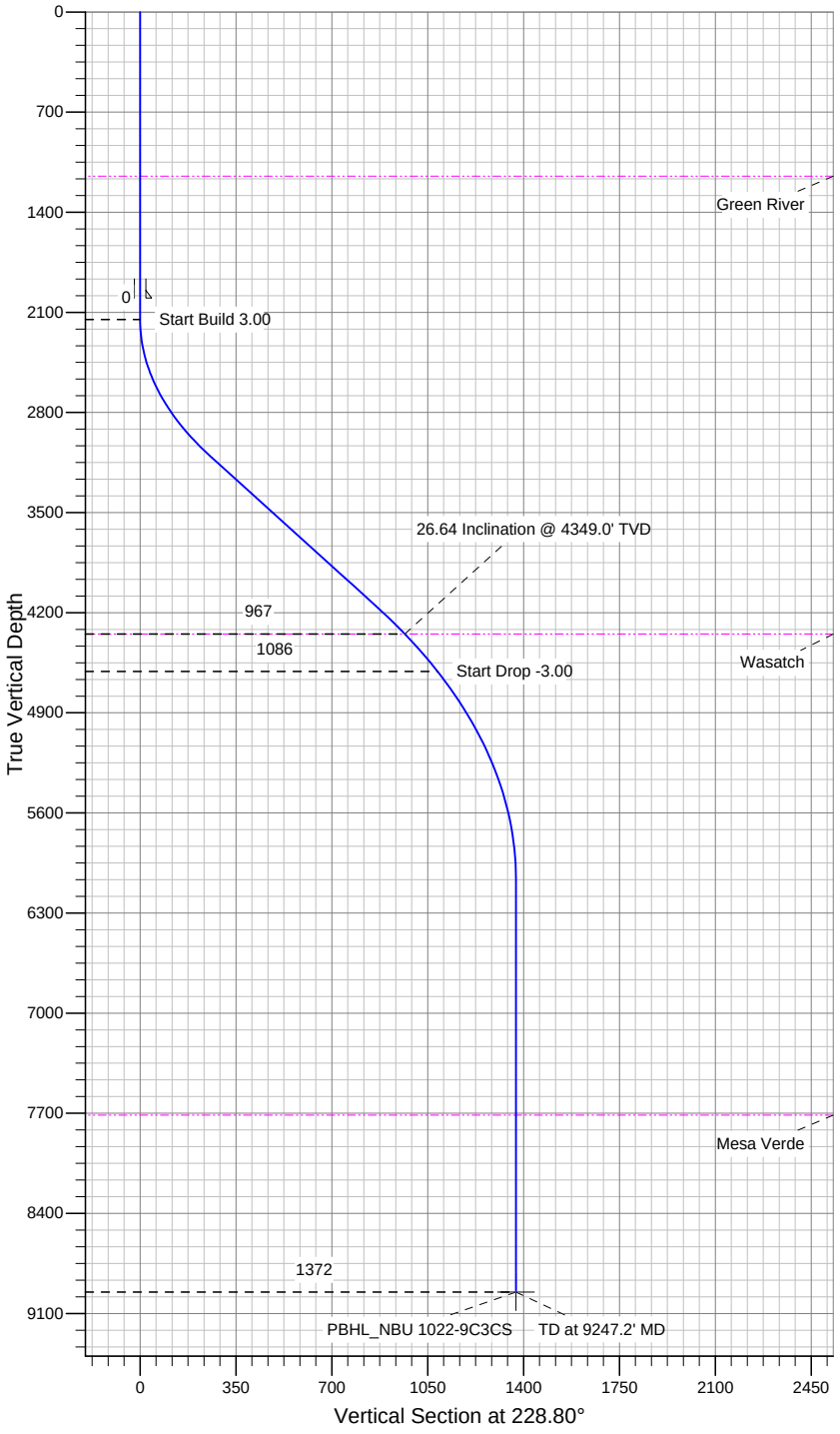
| | | |
|---|---|---|
| DATE SURVEYED: 09-26-08 | SURVEYED BY: M.S.B. | SHEET |
| DATE DRAWN: 10-06-08 | DRAWN BY: M.W.W. | 3 |
| SCALE: 1" = 1000' | Date Last Revised: 01-22-09 | OF 13 |

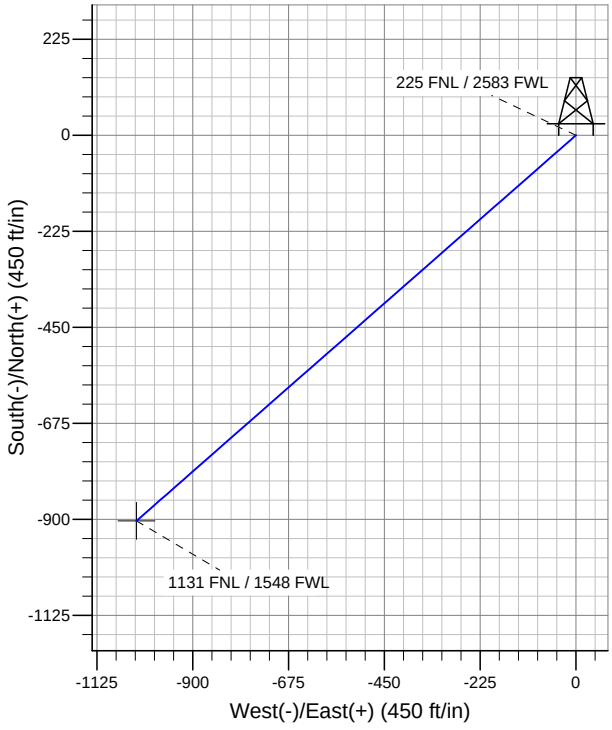
’APIWellNo:43047507390000’

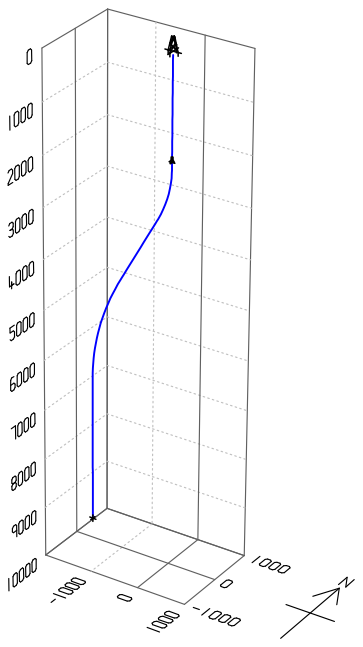
Anadarko Petroleum Corporation

Well Name: P_NBU 1022-9C3CS
Surface Location: UINTAH_NBU 1022-9C PAD
North American Datum 1983 US State Plane 1983
UTAH CENTRAL ZONE - 83
Ground Elevation: 5190.5

| Northing | Easting | Latitude | Longitude |
|---|---|---|---|
| 7164452.33 | 2216286.14 | 39° 58' 12.40096 N | 109° 26' 42.11700 W |

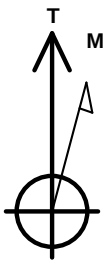


SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 |
| 2 | 2150.0 | 0.00 | 0.00 | 2150.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 |
| 3 | 3150.0 | 30.00 | 228.80 | 3104.9 | -168.6 | -192.5 | 3.00 | 228.80 | 255.9 |
| 4 | 4358.9 | 30.00 | 228.80 | 4151.9 | -566.7 | -647.3 | 0.00 | 0.00 | 860.3 |
| 5 | 6358.9 | 0.00 | 0.00 | 6061.7 | -903.8 | -1032.3 | 1.50 | 180.00 | 1372.1 |
| 6 | 9247.2 | 0.00 | 0.00 | 8950.0 | -903.8 | -1032.3 | 0.00 | 0.00 | 1372.1 |




Azimuths to True North
Magnetic North: 11.31°

Magnetic Field
Strength: 52565.9snT
Dip Angle: 65.92°
Date: 4/1/2009
Model: IGRF200510

**NBU 1022-9C3CS**
Pad: NBU 1022-9C
Surface: 225' FNL 2,583' FWL (NE/4NW/4)
BHL: 1,131' FNL 1,548' FWL (NE/4NW/4)
Sec. 9 T10S R22E

Uintah, Utah
Mineral Lease: UTU 01196B

# ONSHORE ORDER NO. 1

## *DRILLING PROGRAM*

**1. – 2. Estimated Tops of Important Geologic Markers:**
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

| Formation | Depth | Resource |
|---|---|---|
| Uinta | 0 – Surface | |
| Green River | 1,148' | |
| Birds Nest | 1,514' | Water |
| Mahogany | 1,981' | Water |
| Wasatch | 4,349' | Gas |
| Mesaverde | 6,826' | Gas |
| MVU2 | 7,713' | Gas |
| MVL1 | 8,328' | Gas |
| TVD | 8,950' | |
| TD | 9,247' | |

**3. Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program.*

**4. Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program.*

**5. Drilling Fluids Program:**

*Please refer to the attached Drilling Program.*

**6. Evaluation Program:**

*Please refer to the attached Drilling Program.*

**7. Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 8,950' TVD, approximately equals 5,473 psi (calculated at 0.59 psi/foot).

Maximum anticipated surface pressure equals approximately 3,328 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**8. Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

**9. Variances:**

*Please refer to the attached Drilling Program.*
*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

***Variance for BOPE Requirements***
*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

***Variance for Mud Material Requirements***
*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

***Variance for Special Drilling Operation (surface equipment placement) Requirements***
*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

***Variance for FIT Requirements***
*KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). The air rig operation utilizes a 5M BOPE when drilling. This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.*

***Conclusion***
*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

**10. Other Information:**

*Please refer to the attached Drilling Program.*

’APIWellNo:43047507390000’

# KERR-McGEE OIL & GAS ONSHORE LP

## DRILLING PROGRAM

| | | | | | |
|---|---|---|---|---|---|
| COMPANY NAME | KERR-McGEE OIL & GAS ONSHORE LP | | DATE | September 11, 2009 | |
| WELL NAME | **NBU 1022-9C3CS** | | TD | 8,950' TVD | 9,247' MD |
| FIELD | Natural Buttes | COUNTY Uintah STATE Utah | | FINISHED ELEVATION | 5,191' |
| SURFACE LOCATION | NE/4 NW/4 225' FNL | 2,583' FWL | Sec 9 | T 10S | R 22E |
| | Latitude: 39.970111 | Longitude: -109.445033 | | | NAD 83 |
| BTM HOLE LOCATION | NE/4 NW/4 1,131' FNL | 1,548' FWL | Sec 9 | T 10S | R 22E |
| | Latitude: 39.967630 | Longitude: -109.448716 | | | NAD 83 |
| OBJECTIVE ZONE(S) | Wasatch/Mesaverde | | | | |
| ADDITIONAL INFO | Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept. | | | | |

| GEOLOGICAL | | | MECHANICAL | | |
|---|---|---|---|---|---|
| LOGS | FORMATION TOPS | DEPTH | HOLE SIZE | CASING SIZE | MUD WEIGHT |
| | | 20' | | 14" | |
| | | | 12-1/4" | 9-5/8", 36#, J-55, LTC | Air mist |

**All water flows encountered while drilling will be reported to the appropriate agencies.**

| | |
|---|---|
| **Green River @** | **1,148'** |
| **Top of Birds Nest @** | **1,514'** |
| **Mahogany @** | **1,981'** |
| **Preset f/ GL @** | **2,185' MD** |

Note: 12.25" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.

| | |
|---|---|
| **Wasatch @** | **4,349'** |

Mud logging program TBD
Cased hole logging program from TD - surf csg

| | |
|---|---|
| **Mverde @** | **6,826' TVD** |
| **MVU2 @** | **7,713' TVD** |
| **MVU1 @** | **8,328' TVD** |

| | | | | |
|---|---|---|---|---|
| | | | 7-7/8" | 4-1/2" 11.6# I-80 or equivalent BTC csg | Water / Fresh Water Mud 8.3-11.6 ppg |

Max anticipated Mud required 11.6 ppg

**TD @ 8,950' TVD 9,247' MD**

'APIWellNo:43047507390000'

# KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

## CASING PROGRAM

| | SIZE | INTERVAL | | | WT. | GR. | CPLG. | DESIGN FACTORS BURST | COLLAPSE | TENSION |
|---|---|---|---|---|---|---|---|---|---|---|
| CONDUCTOR | 14" | 0-40' | | | | | | | | |
| | | | | | | | | 3,520 | 2,020 | 453,000 |
| SURFACE | 9-5/8" | 0 | to | 2,185 | 36.00 | J-55 | LTC | 0.99 | 1.98 | 7.33 |
| | | | | | | | | 7,780 | 6,350 | 278,000 |
| PRODUCTION | 4-1/2" | 0 | to | 9,247 | 11.60 | I-80 | BTC | 2.27 | 1.18 | 2.97 |

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)
(Burst Assumptions: TD = 11.6 ppg) 0.22 psi/ft = gradient for partially evac wellbore
(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)
**MASP 3,328 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD
(Burst Assumptions: TD = 11.6 ppg) 0.59 psi/ft = bottomhole gradient
(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)
**MABHP 5,473 psi**

## CEMENT PROGRAM

| | | FT. OF FILL | DESCRIPTION | SACKS | EXCESS | WEIGHT | YIELD |
|---|---|---|---|---|---|---|---|
| SURFACE | LEAD | 500' | Premium cmt + 2% CaCl | 215 | 60% | 15.60 | 1.18 |
| **Option 1** | | | + 0.25 pps flocele | | | | |
| | TOP OUT CMT (6 jobs) | 1,200' | 20 gals sodium silicate + Premium cmt | 380 | 0% | 15.60 | 1.18 |
| | | | + 2% CaCl + 0.25 pps flocele | | | | |
| | | | Premium cmt + 2% CaCl | | | | |
| SURFACE | | | **NOTE: If well will circulate water to surface, option 2 will be utilized** | | | | |
| **Option 2** | LEAD | 1,685' | 65/35 Poz + 6% Gel + 10 pps gilsonite | 400 | 35% | 12.60 | 1.81 |
| | | | + 0.25 pps Flocele + 3% salt BWOW | | | | |
| | TAIL | 500' | Premium cmt + 2% CaCl | 180 | 35% | 15.60 | 1.18 |
| | | | + 0.25 pps flocele | | | | |
| | TOP OUT CMT | as required | Premium cmt + 2% CaCl | as req. | | 15.60 | 1.18 |
| PRODUCTION | LEAD | 3,847' | Premium Lite II + 3% KCl + 0.25 pps | 370 | 40% | 11.00 | 3.38 |
| | | | celloflake + 5 pps gilsonite + 10% gel | | | | |
| | | | + 0.5% extender | | | | |
| | TAIL | 5,400' | 50/50 Poz/G + 10% salt + 2% gel | 1,320 | 40% | 14.30 | 1.31 |
| | | | + 0.1% R-3 | | | | |

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained
*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

## FLOAT EQUIPMENT & CENTRALIZERS

| | |
|---|---|
| SURFACE | Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe |
| PRODUCTION | Float shoe, 1 jt, float collar. No centralizers will be used. |

## ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

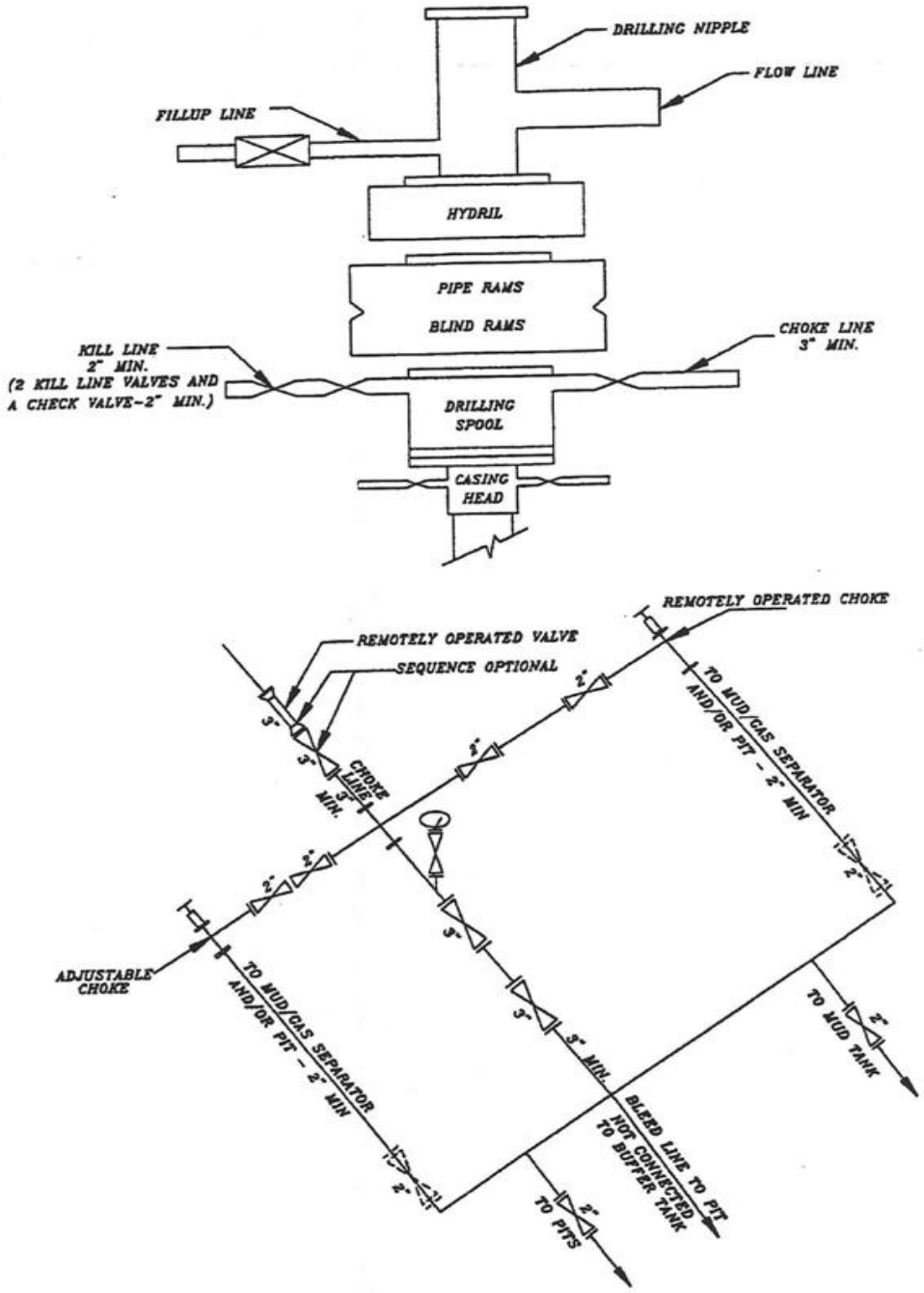
Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:** _____ **DATE:** _____
John Huycke / Emile Goodwin

**DRILLING SUPERINTENDENT:** _____ **DATE:** _____
John Merkel / Lovel Young

# EXHIBIT A
# NBU 1022-9C3CS




**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

# WELL PAD INTERFERENCE PLAT

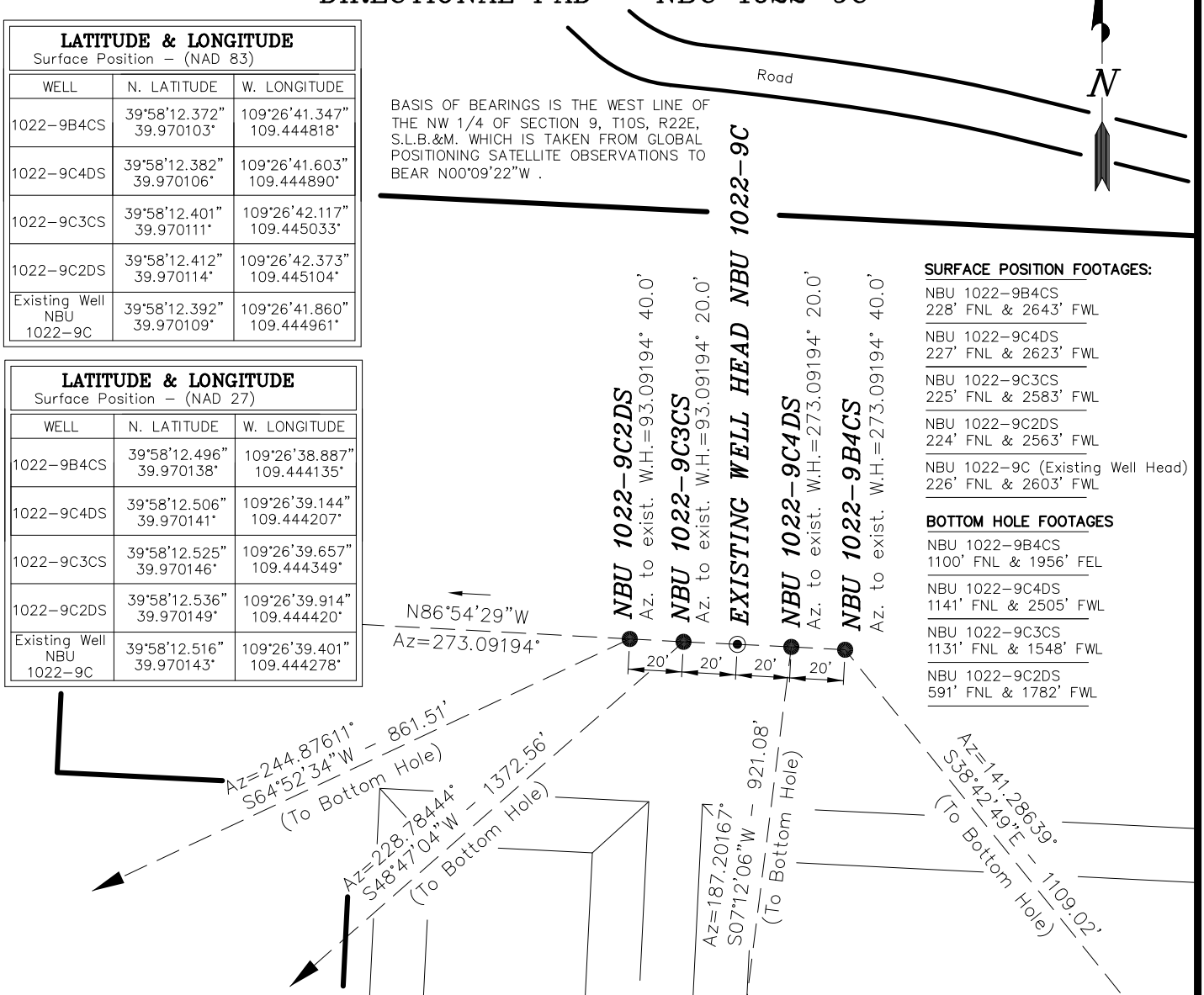
## DIRECTIONAL PAD – NBU 1022-9C

**LATITUDE & LONGITUDE**
Surface Position – (NAD 83)

| WELL | N. LATITUDE | W. LONGITUDE |
|---|---|---|
| 1022-9B4CS | 39°58'12.372" 39.970103° | 109°26'41.347" 109.444818° |
| 1022-9C4DS | 39°58'12.382" 39.970106° | 109°26'41.603" 109.444890° |
| 1022-9C3CS | 39°58'12.401" 39.970111° | 109°26'42.117" 109.445033° |
| 1022-9C2DS | 39°58'12.412" 39.970114° | 109°26'42.373" 109.445104° |
| Existing Well NBU 1022-9C | 39°58'12.392" 39.970109° | 109°26'41.860" 109.444961° |

**LATITUDE & LONGITUDE**
Surface Position – (NAD 27)

| WELL | N. LATITUDE | W. LONGITUDE |
|---|---|---|
| 1022-9B4CS | 39°58'12.496" 39.970138° | 109°26'38.887" 109.444135° |
| 1022-9C4DS | 39°58'12.506" 39.970141° | 109°26'39.144" 109.444207° |
| 1022-9C3CS | 39°58'12.525" 39.970146° | 109°26'39.657" 109.444349° |
| 1022-9C2DS | 39°58'12.536" 39.970149° | 109°26'39.914" 109.444420° |
| Existing Well NBU 1022-9C | 39°58'12.516" 39.970143° | 109°26'39.401" 109.444278° |




**SURFACE POSITION FOOTAGES:**

NBU 1022-9B4CS
228' FNL & 2643' FWL

NBU 1022-9C4DS
227' FNL & 2623' FWL

NBU 1022-9C3CS
225' FNL & 2583' FWL

NBU 1022-9C2DS
224' FNL & 2563' FWL

NBU 1022-9C (Existing Well Head)
226' FNL & 2603' FWL

**BOTTOM HOLE FOOTAGES**

NBU 1022-9B4CS
1100' FNL & 1956' FEL

NBU 1022-9C4DS
1141' FNL & 2505' FWL

NBU 1022-9C3CS
1131' FNL & 1548' FWL

NBU 1022-9C2DS
591' FNL & 1782' FWL

**LATITUDE & LONGITUDE**
Bottom Hole – (NAD 83)

| WELL | N. LATITUDE | W. LONGITUDE |
|---|---|---|
| 1022-9B4CS | 39°58'03.821" 39.967728° | 109°26'32.443" 109.442345° |
| 1022-9C4DS | 39°58'03.354" 39.967598° | 109°26'43.088" 109.445302° |
| 1022-9C3CS | 39°58'03.468" 39.967630° | 109°26'55.377" 109.448716° |
| 1022-9C2DS | 39°58'08.799" 39.969111° | 109°26'52.390" 109.447886° |

**LATITUDE & LONGITUDE**
Bottom Hole – (NAD 27)

| WELL | N. LATITUDE | W. LONGITUDE |
|---|---|---|
| 1022-9B4CS | 39°58'03.945" 39.967763° | 109°26'29.984" 109.441662° |
| 1022-9C4DS | 39°58'03.478" 39.967633° | 109°26'40.629" 109.444619° |
| 1022-9C3CS | 39°58'03.592" 39.967664° | 109°26'52.917" 109.448032° |
| 1022-9C2DS | 39°58'08.924" 39.969145° | 109°26'49.930" 109.447203° |

**RELATIVE COORDINATES**
From Surface Position to Bottom Hole

| WELL | NORTH | EAST |
|---|---|---|
| 1022-9B4CS | -865' | 694' |
| 1022-9C4DS | -914' | -115' |
| 1022-9C3CS | -904' | -1,032' |
| 1022-9C2DS | -366' | -780' |

60' 30' 0' 60'

SCALE

Kerr-McGee
Oil & Gas Onshore, LP
1099 18th Street – Denver, Colorado 80202

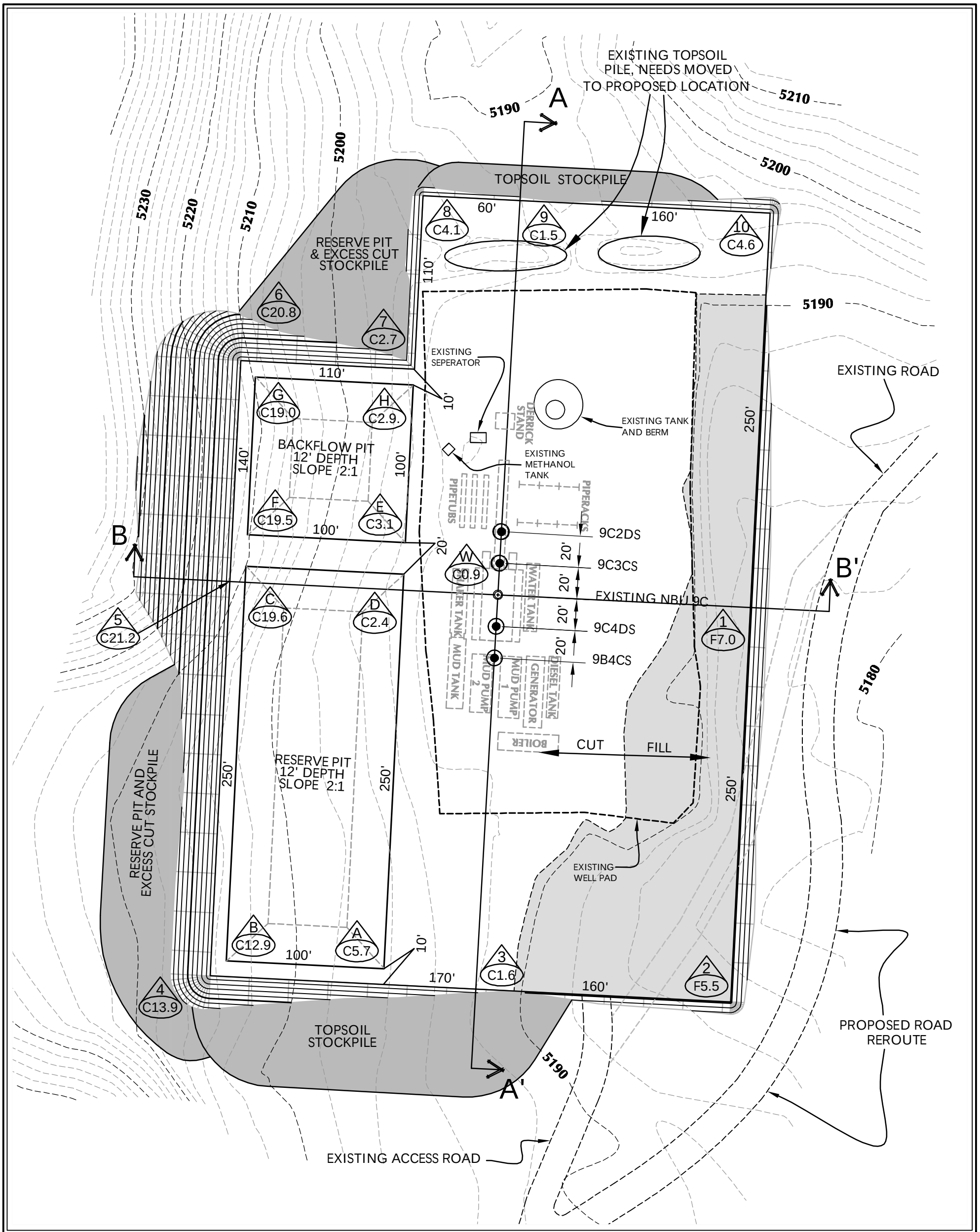
NBU 1022-9B4CS, NBU 1022-9C4DS,
NBU 1022-9C3CS & NBU1022-9C2DS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M. UINTAH COUNTY, UTAH.


609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182


| | |
|---|---|
| DATE SURVEYED: 09-26-08 | SURVEYED BY: M.S.B. |
| DATE DRAWN: 10-06-08 | DRAWN BY: M.W.W. |
| | REVISED: 01-22-09 |


*Timberline* (435) 789-1365
*Engineering & Land Surveying, Inc.*
209 NORTH 300 WEST VERNAL, UTAH 84078

’APIWellNo:43047507390000’




KERR-MCGEE OIL & GAS
ONSHORE L.P.
1099 18th Street - Denver, Colorado 80202

WELL PAD - LOCATION LAYOUT
NBU 1022-9B4CS, NBU 1022-9C4DS,
NBU 1022-9C3CS, NBU 1022-9C2DS
LOCATED IN SECTION 9, T.10S., R.22E.
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

WELL PAD NBU 1022-9C QUANTITIES

EXISTING GRADE @ CENTER OF PAD = 5,191.4'
FINISHED GRADE ELEVATION = 5,190.5'
**CUT SLOPES = 1.5:1**
**FILL SLOPES = 1.5:1**

TOTAL CUT FOR WELL PAD = 24,373 C.Y.
TOTAL FILL FOR WELL PAD = 5,349 C.Y.
TOPSOIL @ 6" DEPTH = 2,309 C.Y.
EXCESS MATERIAL = 19,024 C.Y.
TOTAL DISTURBANCE = 4.15 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 28,730 BARRELS
RESERVE PIT VOLUME
+/- 7,720 CY
BACKFLOW PIT CAPACITY (2' OF FREEBOARD)
+/- 9,490 BARRELS
BACKFLOW PIT VOLUME
+/- 2,660 CY

WELL PAD LEGEND

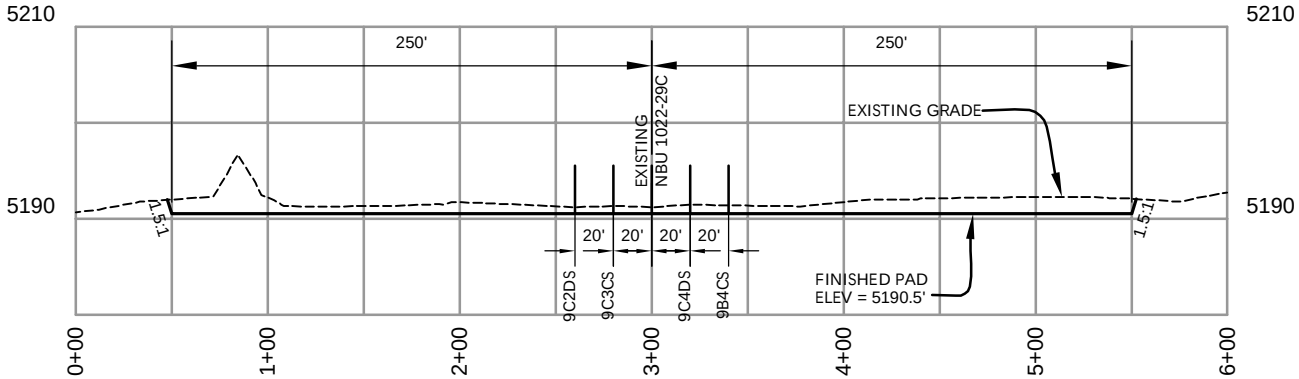
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)

HORIZONTAL 0 30 60 1" = 60'
2' CONTOURS

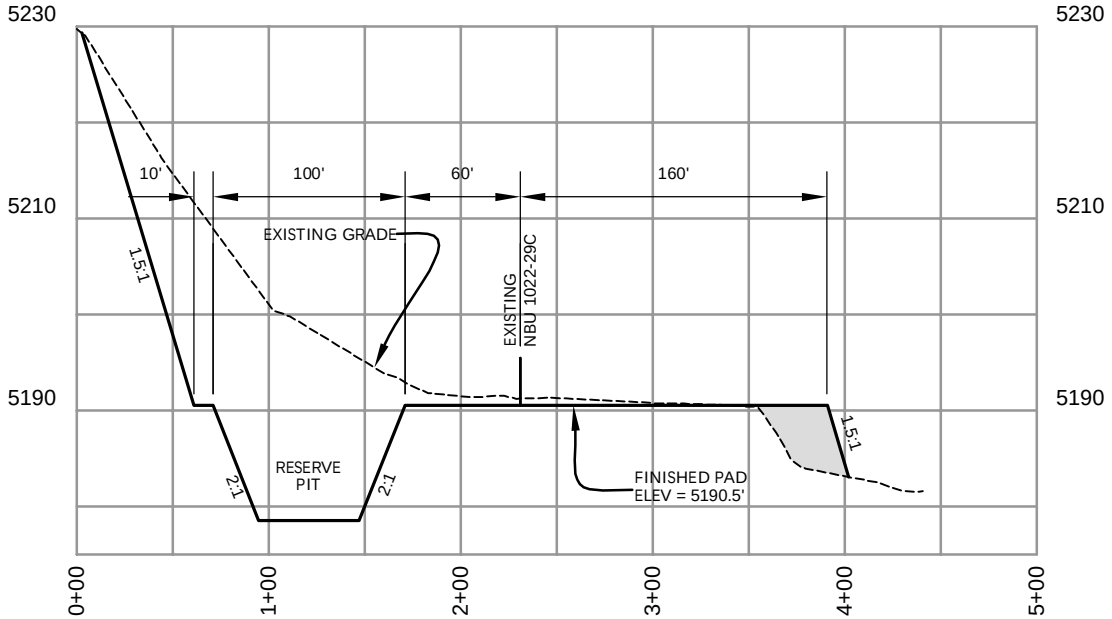
| Scale: 1"=60' | Date: 2/11/09 | SHEET NO: 6 6 OF 13 |
|---|---|---|
| REVISED: | BY DATE | |

*Timberline* (435) 789-1365
*Engineering & Land Surveying, Inc.*
38 WEST 100 NORTH VERNAL, UTAH 84078

C:\ANADARKO\2008_27_NBU_Directional_Wells\DWGS\NBU_DIRECTIONAL_JAN_FEB_2009_CES1.dwg, 2/11/2009 3:40:01 PM




## CROSS SECTION A-A'




## CROSS SECTION B-B'

NOTE: CROSS SECTION B-B' DEPICTS MAXIMUM RESERVE PIT DEPTH.

KERR-MCGEE OIL & GAS ONSHORE L.P.
1099 18th Street - Denver, Colorado 80202

WELL PAD - CROSS SECTIONS
NBU 1022-9B4CS, NBU 1022-9C4DS,
NBU 1022-9C3CS, NBU 1022-9C2DS
LOCATED IN SECTION 9, T.10S., R.22E.
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

HORIZONTAL 0 50 100 1" = 100'
VERTICAL 0 10 20 1" = 20'

| Scale: 1"=100' | Date: 2/11/09 | SHEET NO: 7 |
|---|---|---|
| REVISED: | BY DATE | 7 OF 13 |

Timberline Engineering & Land Surveying, Inc.
38 WEST 100 NORTH VERNAL, UTAH 84078 (435) 789-1365

'APIWellNo:43047507390000'
K:\ANADARKO\2008_27_NBU_Directional_Wells\DWGS\NBU_DIRECTIONAL_JAN_FEB_2009_CESI.dwg, 2/13/2009 12:36:18 PM, PDF-XChange for AcroPlot Pro

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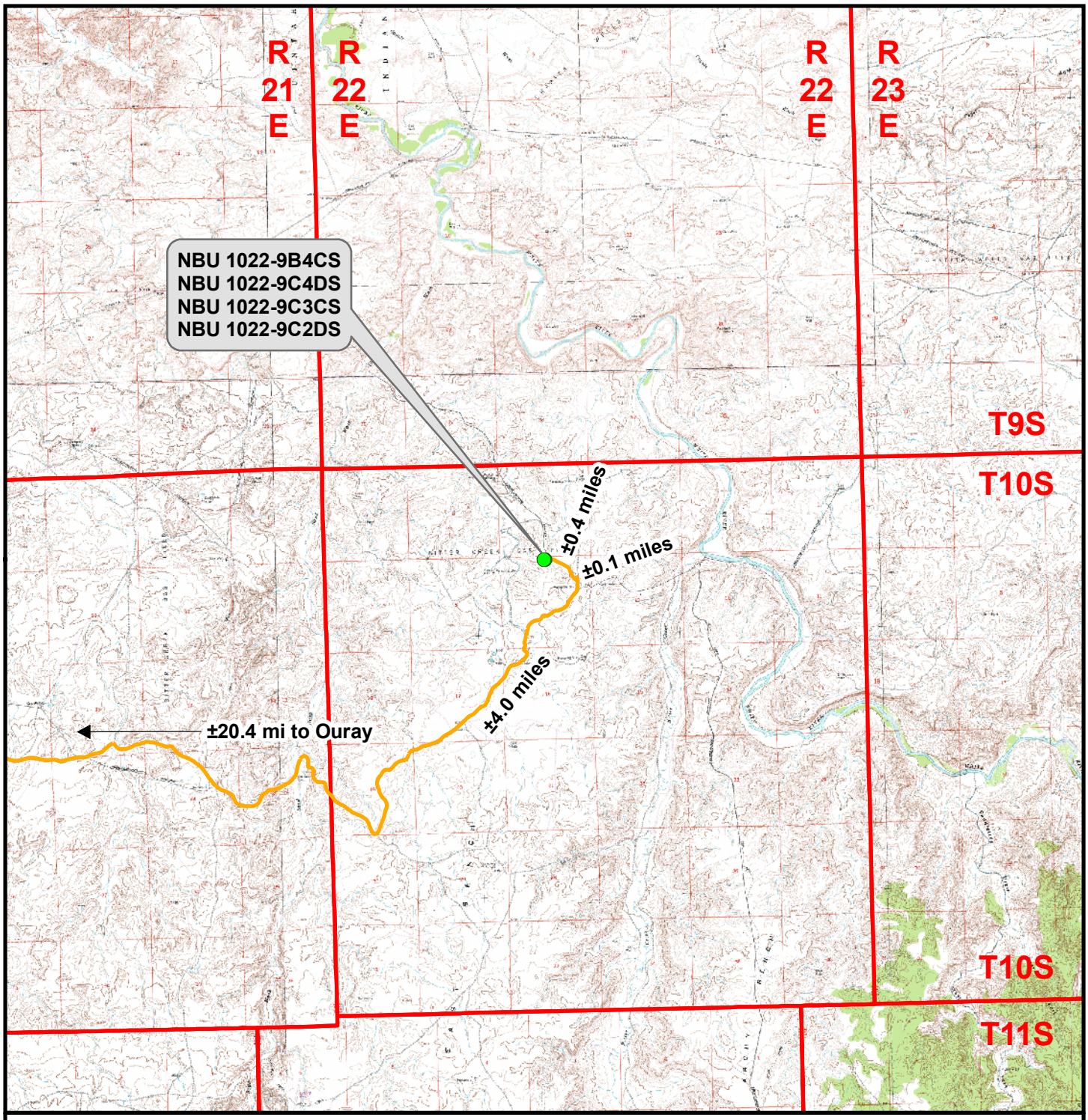



**Legend**

- Proposed Well Location
- Access Route - Proposed

**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street, Denver, Colorado 80202

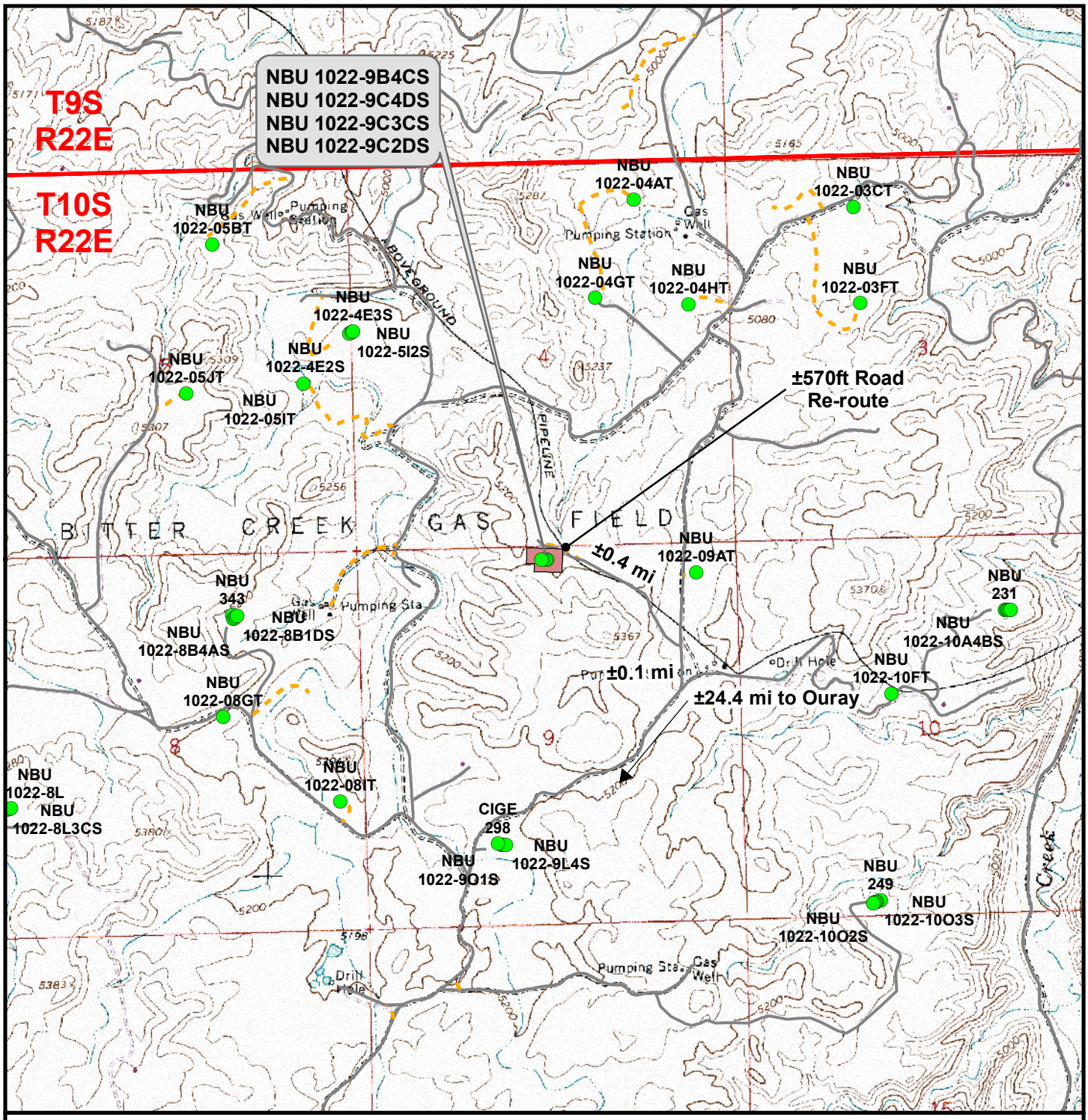
**NBU 1022-9B4CS, NBU 1022-9C4DS, NBU 1022-9C3CS & NBU 1022-9C2DS**
**Topo A**
**Located In Section 9, T10S, R22E**
**S.L.B.&M., Uintah County, Utah**


609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182


N

| | | | |
|---|---|---|---|
| Scale: 1:100,000 | NAD83 USP Central | Sheet No: 9 | 9 of 13 |
| Drawn: JELo | Date: 10 Feb 2009 | | |
| Revised: | Date: | | |

’APIWellNo:43047507390000’




**Legend**

Well - Proposed | Well Pad | Road - Proposed | Road - Existing

Total Proposed Road Length: ±570ft


**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street, Denver, Colorado 80202

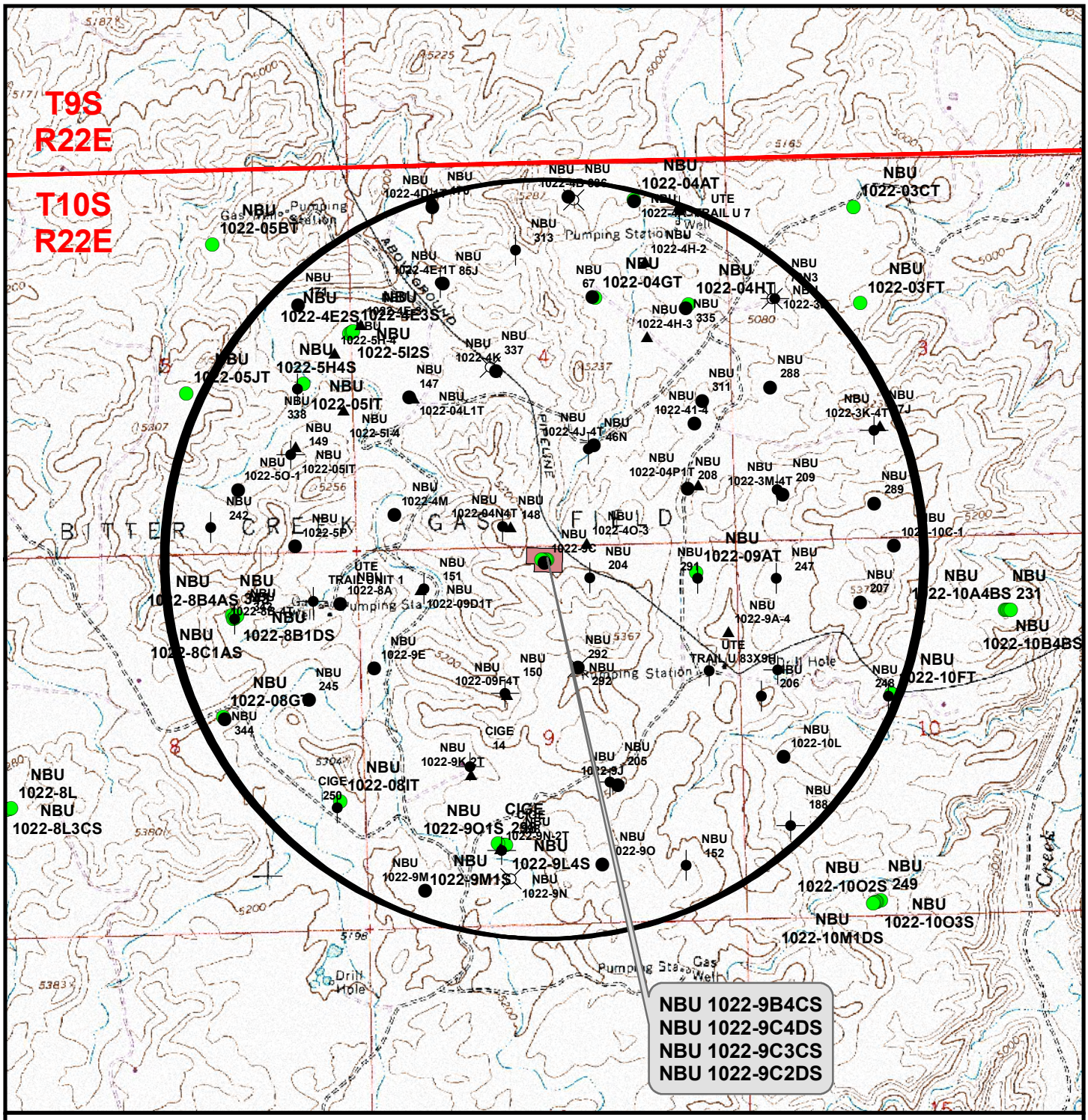

**NBU 1022-9B4CS, NBU 1022-9C4DS, NBU 1022-9C3CS & NBU 1022-9C2DS**
**Topo B**
**Located In Section 9, T10S, R22E**
**S.L.B.&M., Uintah County, Utah**


609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182


N

| | | | |
|---|---|---|---|
| Scale: 1" = 2000ft | NAD83 USP Central | Sheet No: 10 of 13 | |
| Drawn: JELo | Date: 10 Feb 2009 | | |
| Revised: | Date: | | |

’APIWellNo:43047507390000’





Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

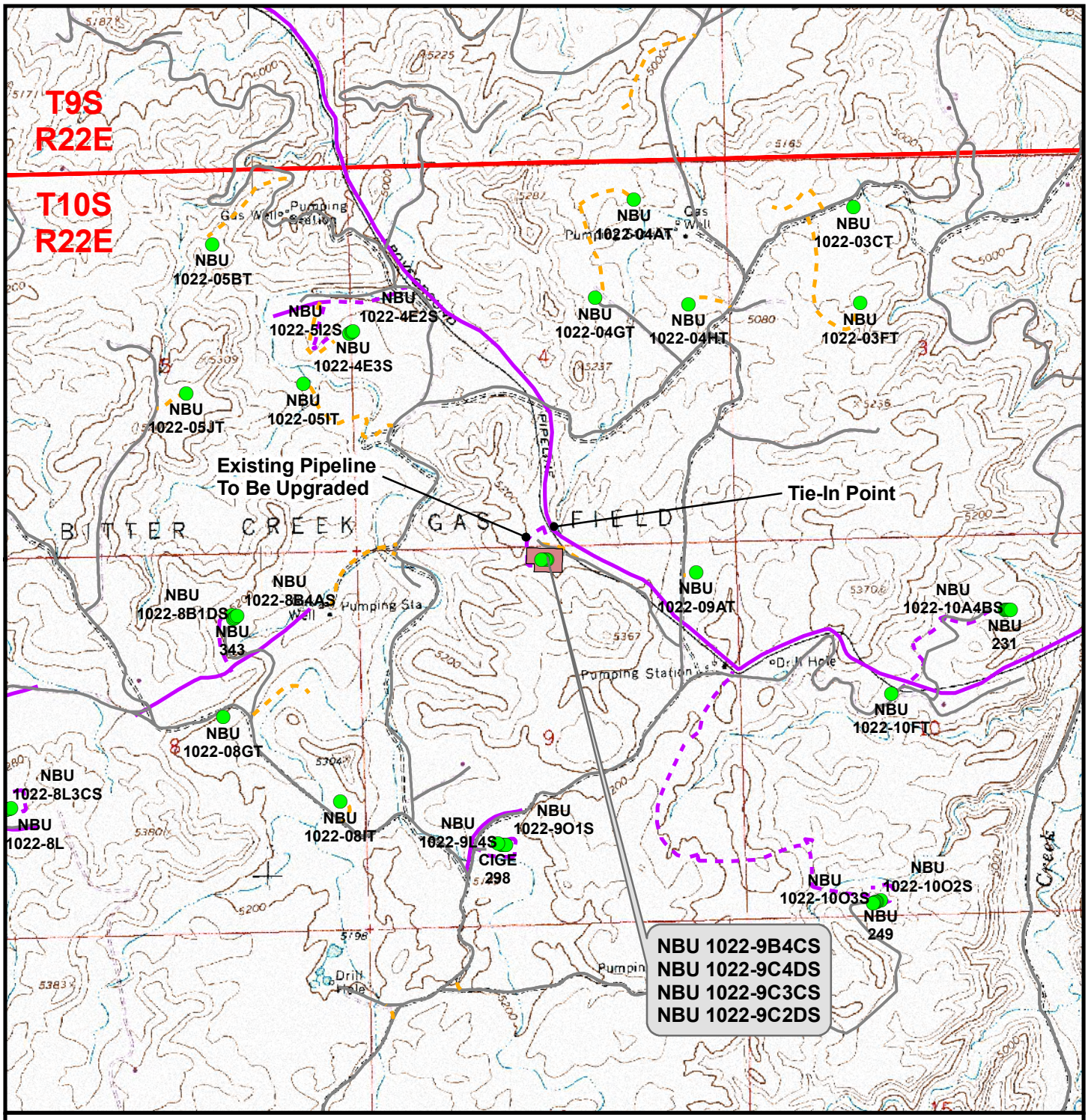

**NBU 1022-9B4CS, NBU 1022-9C4DS, NBU 1022-9C3CS & NBU 1022-9C2DS**
**Topo C**
**Located In Section 9, T10S, R22E**
**S.L.B.&M., Uintah County, Utah**


609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182


N

| | | | |
|---|---|---|---|
| Scale: 1" = 2000ft | NAD83 USP Central | Sheet No: 11 | 11 of 13 |
| Drawn: JELo | Date: 10 Feb 2009 | | |
| Revised: | Date: | | |

’APIWellNo:43047507390000’




**Legend**

Well - Proposed | Well Pad | Road - Proposed | Pipeline - Proposed | Road - Existing | Pipeline - Existing

Proposed Pipeline Length From Tie-In Point To Edge Of Pad: ±665ft
Proposed Pipeline Length Around Pad: ±660ft


**Kerr-McGee Oil & Gas Onshore, LP**
1099 18th Street, Denver, Colorado 80202


**NBU 1022-9B4CS, NBU 1022-9C4DS, NBU 1022-9C3CS & NBU 1022-9C2DS**
**Topo D**
**Located In Section 9, T10S, R22E**
**S.L.B.&M., Uintah County, Utah**


609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182


N

| | | | |
|---|---|---|---|
| Scale: 1" = 2000ft | NAD83 USP Central | Sheet No: 12 | 12 of 13 |
| Drawn: JELo | Date: 10 Feb 2009 | | |
| Revised: | Date: | | |

'APIWellNo:43047507390000'

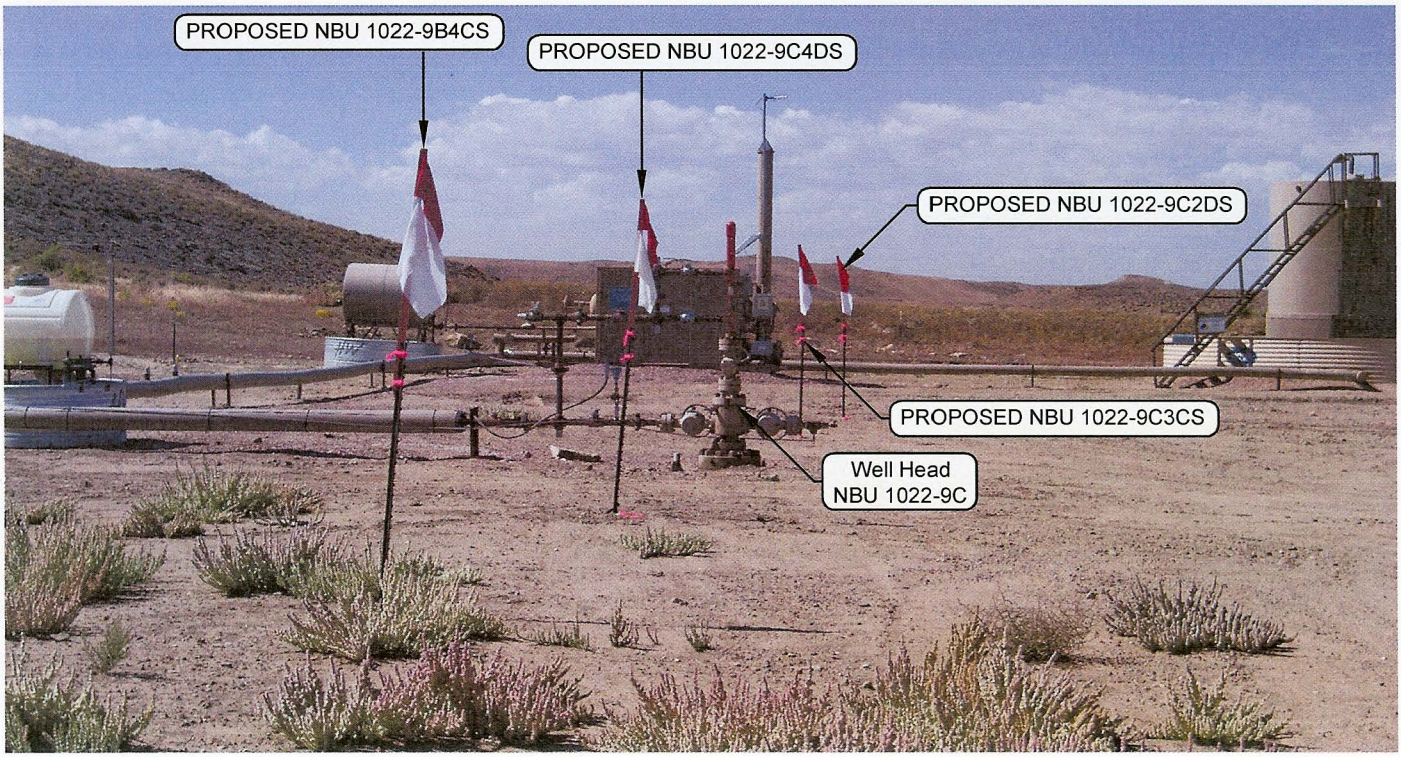



PHOTO VIEW: TO LOCATION STAKES

CAMERA ANGLE: WESTERLY


PHOTO VIEW: FROM EXISTING ROAD

CAMERA ANGLE: WESTERLY

Kerr–McGee
Oil & Gas Onshore, LP
1099 18th Street – Denver, Colorado 80202

NBU 1022-9B4CS, NBU 1022-9C4DS,
NBU 1022-9C3CS & NBU1022-9C2DS
LOCATED IN SECTION 9, T10S, R22E,
S.L.B.&M. UINTAH COUNTY, UTAH.

609
CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

| LOCATION PHOTOS | | DATE TAKEN: 09-26-08 |
|---|---|---|
| | | DATE DRAWN: 10-06-08 |
| TAKEN BY: M.S.B. | DRAWN BY: M.W.W. | REVISED: 02-07-09 |

Timberline (435) 789-1365
Engineering & Land Surveying, Inc.
209 NORTH 300 WEST VERNAL, UTAH 84078

**Kerr-McGee Oil & Gas Onshore, LP**
**NBU 1022-9B4CS, NBU 1022-9C4DS, NBU 1022-9C3CS & NBU 1022-9C2DS**
**Section 9, T10S, R22E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 5.2 MILES TO THE INTERSECTION OF THE BITTER CREEK ROAD (COUNTY B ROAD 4120). EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION ALONG THE BITTER CREEK ROAD APPROXIMATELY 4.0 MILES TO A CLASS D COUNTY ROAD RUNNING NORTHEASTERLY. EXIT LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION ALONG THE CLASS D COUNTY ROAD APPROXIMATELY 4.0 MILES TO A SECOND CLASS D COUNTY ROAD RUNNING NORTHERLY. EXIT LEFT AND PROCEED IN A NORTHERLY DIRECTION ALONG THE SECOND CLASS D COUNTY ROAD APPROXIMATELY 0.1 MILES TO A SERVICE ROAD RUNNING NORTHWESTERLY. EXIT LEFT AND PROCEED IN A NORTHWESTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 0.4 MILES TO THE EXISTING WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 55.6 MILES IN A SOUTHERLY DIRECTION.

**NBU 1022-9B4CS**
Surface: 228’ FNL 2,643’ FWL (NE/4NW/4)
BHL: 1,100’ FNL 1,956’ FEL (NW/4NE/4)
Mineral Lease: UTU 01196D

**NBU 1022-9C2DS**
Surface: 224’ FNL 2,563’ FWL (NE/4NW/4)
BHL: 591’ FNL 1,782’ FEL (NE/4NW/4)
Mineral Lease: UTU 01196B

**NBU 1022-9C3CS**
Surface: 225’ FNL 2,583’ FWL (NE/4NW/4)
BHL: 1,131’ FNL 1,548’ FWL (NE/4NW/4)
Mineral Lease: UTU 01196B

**NBU 1022-9C4DS**
Surface: 227’ FNL 2,623’ FWL (NE/4NW/4)
BHL: 1,141’ FNL 2,505’ FWL (NE/4NW/4)
Mineral Lease: UTU 01196B

Pad: NBU 1022-9C
Sec. 9 T10S R22E

Uintah, Utah

## ONSHORE ORDER NO. 1

## *MULTI-POINT SURFACE USE & OPERATIONS PLAN SUBMITTED WITH SITE-SPECIFIC INFORMATION*

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) documents. An NOS was submitted on March 16, 2009 showing the surface locations in NE/4 NW/4 of Section 9 T10S R22E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BLM-Vernal Field Office.

An on-site meeting was held on March 31, 2009. Present were:

- Verlyn Pindell, Dave Gordon – BLM;
- Kolby Kay – 609 Consulting, LLC
- Tony Kazeck, Raleen White, Sheila Upchego, Grizz Oleen, Hal Blanchard, Charles Chase and Jeff Samuels – Kerr-McGee.

**Directional Drilling:**
In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**A. Existing Roads:**

A) Refer to Topo Map A for directions to the location.
B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

**B. Planned Access Roads:**

*See MDP for additional details on road construction.*
Approximately ±570' (±0.11 mile) of road re-route is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

***Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.***

**C. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**D. Location of Existing and Proposed Facilities:**

*See MDP for additional details on Existing and Proposed Facilities.*

This pad will expand the existing pad for the NBU 1022-9C, which is a producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records.

*The following guidelines will apply if the well is productive.*
**Approximately ±1,325' (±0.25 miles) of pipeline is proposed. The existing pipeline, as shown on Topo D, will be upgraded to accommodate anticipated production from the proposed wells. The upgraded pipeline will follow the same route as the existing pipeline.** Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place.

**E. Location and Type of Water Supply:**

*See MDP for additional details on Location and Type of Water Supply.*

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

**F.** **Source of Construction Materials:**
*See MDP for additional details on Source of Construction Materials.*

**G.** **Methods of Handling Waste Materials:**
*See MDP for additional details on Methods of Handling Waste Materials.*

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E
NBU #159 in Sec. 35 T9S R21E
Ace Oilfield in Sec. 2 T6S R20E
MC&MC in Sec. 12 T6S R19E
Pipeline Facility in Sec. 36 T9S R20E
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
Bonanza Evaporation Pond in Sec. 2 T10S R23E

**H.** **Ancillary Facilities:**
*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

**I.** **Well Site Layout:** (See Location Layout Diagram)
*See MDP for additional details on Well Site Layout.*

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

**J.** **Plans for Reclamation of the Surface:**
*See MDP for additional details on Plans for Reclamation of the Surface.*

**K.** **Surface/Mineral Ownership:**
United States of America
Bureau of Land Management
170 South 500 East
Vernal, UT 84078
(435)781-4400

**L.** **Other Information:**
*See MDP for additional details on Other Information.*

**M. Lessee's or Operators' Representative & Certification:**

Kathy Schneebeck Dulnoan
Regulatory Analyst
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6007

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Kathy Schneebeck Dulnoan

September 10, 2009
Date

’APIWellNo:43047507390000’

Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80127

September 15, 2009

Ms. Diana Mason
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11
NBU 1022-9C3CS
T10S-R22E
Section 9: NENW
Surface: 225’ FNL, 2583’ FWL
Bottom Hole: 1131’ FNL, 1548’ FWL
Uintah County, Utah

Dear Mrs. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP’s (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee’s NBU 1022-9C3CS located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Jessy Pink

Jessy Pink
Landman

# CLASS I REVIEW OF KERR-MCGEE OIL AND GAS ONSHORE LP'S 55 PROPOSED WELL LOCATIONS IN TOWNSHIP 10S, RANGE 22E, SECTIONS 4, 7, 8, 9, 10, 18 AND 20, UINTAH COUNTY, UTAH

By:

Patricia Stavish

Prepared For:
Bureau of Land Management
Vernal Field Office
and
State of Utah
School & Institutional Trust Lands Administration

Prepared Under Contract With:

Kerr-McGee Oil and Gas Onshore LP
1368 South 1200 East
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.
P.O. Box 219
Moab, Utah 84532

MOAC Report No. 08-321

February 20, 2009

United States Department of Interior (FLPMA)
Permit No. 08-UT-60122

Public Lands Policy Coordination Office
Archaeological Survey Permit No. 117

**IPC #08-290**

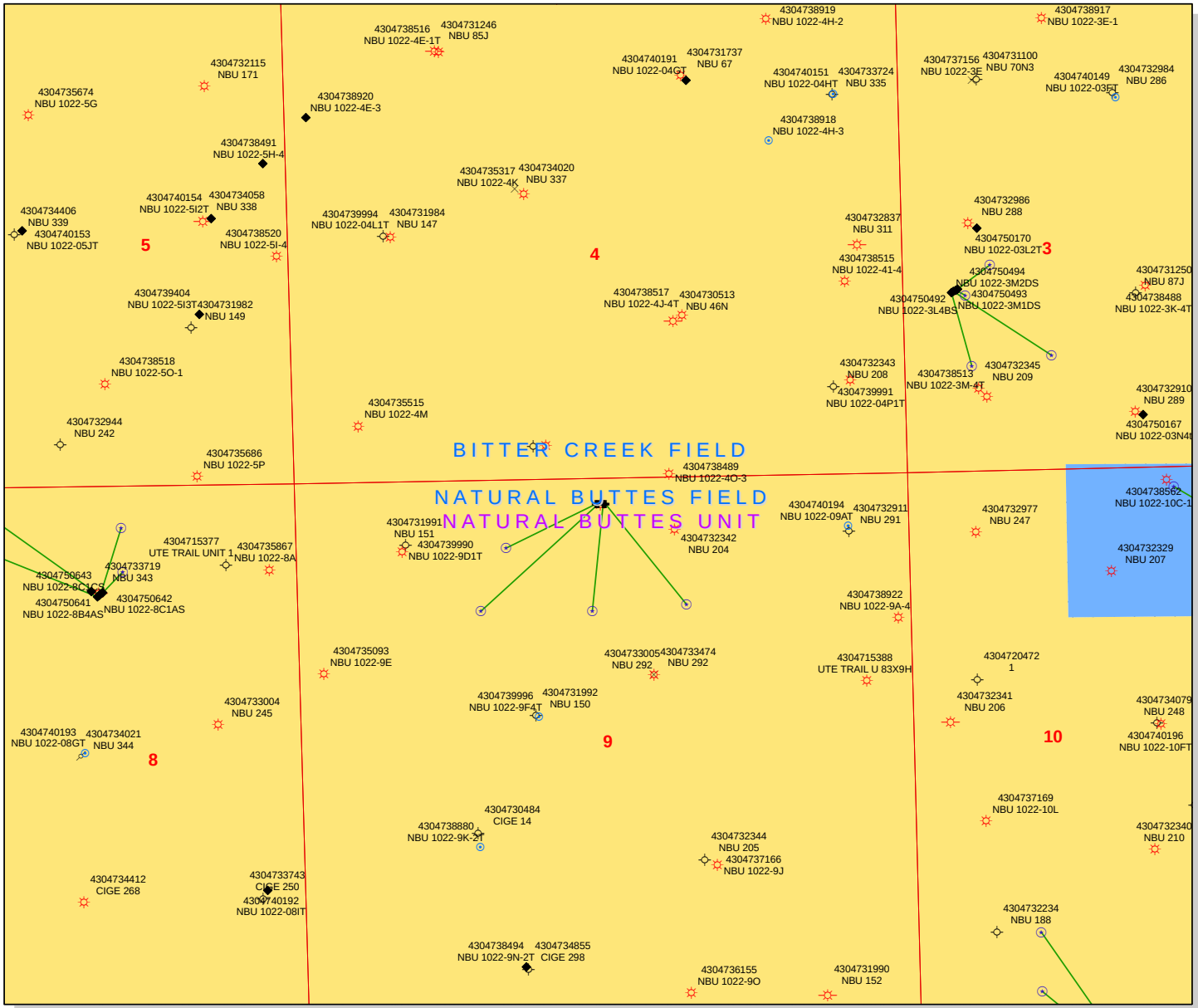
# Paleontological Reconnaissance Survey Report

## Survey of Kerr McGee's Proposed Directional Pads, Multi Wells, Access Roads and Pipelines for "NBU #1022-9C, 9B4CS, 9C4DS, 9C3CS & 9C2DS" & "NBU #231, #1022-10C1BS, 10B1BS, 10B4BS & 10A4BS" (Sec. 4, 9 & 10, T 10 S, R 22 E)

Archy Bench
Topographic Quadrangle
Uintah County, Utah

December 2, 2008

Prepared by Stephen D. Sandau
Paleontologist for
Intermountain Paleo-Consulting
P. O. Box 1125
Vernal, Utah 84078




**API Number: 4304750739**

**Well Name: NBU 1022-9C3CS**

**Township 10.0 S Range 22.0 E Section 9**

**Meridian: SLBM**

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:
Map Produced by Diana Mason

**Units**
STATUS
ACTIVE
EXPLORATORY
GAS STORAGE
NF PP OIL
NF SECONDARY
PI OIL
PP GAS
PP GEOTHERML
PP OIL
SECONDARY
TERMINATED
**Fields**
STATUS
ACTIVE
COMBINED
Sections

**Wells Query Events**
<all other values>
GIS_STAT_TYPE
<Null>
APD
DRL
GI
GS
LA
NEW
OPS
PA
PGW
POW
RET
SGW
SOW
TA
TW
WD
WI
WS


1,100 550 0 1,100 Feet

1:10,646

'APIWellNo:43047507390000'

# United States Department of the Interior

BUREAU OF LAND MANAGEMENT
**Utah State Office**
**P.O. Box 45155**
**Salt Lake City, Utah 84145-0155**

**IN REPLY REFER TO:**
**3160**
**(UT-922)**

September 18, 2009

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2009 Plan of Development Natural Buttes Unit Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

| API # | WELL NAME | LOCATION |
|---|---|---|
| (Proposed PZ WASATCH-MESA VERDE) | | |
| 43-047-50731 | NBU 921-7F | Sec 07 T09S R21E 2079 FNL 2869 FWL |
| 43-047-50732 | NBU 921-7L | Sec 07 T09S R21E 1948 FSL 1196 FWL |
| 43-047-50733 | NBU 921-8D | Sec 08 T09S R21E 0469 FNL 0652 FWL |
| 43-047-50734 | NBU 921-8N | Sec 08 T09S R21E 0705 FSL 2033 FWL |
| 43-047-50735 | NBU 921-7D | Sec 07 T09S R21E 0463 FNL 0180 FWL |
| 43-047-50736 | NBU 921-8C | Sec 08 T09S R21E 0483 FNL 1729 FWL |
| 43-047-50737 | NBU 1022-9B4CS | Sec 09 T10S R22E 0228 FNL 2643 FWL |
| | BHL | Sec 09 T10S R22E 1100 FNL 1956 FEL |
| 43-047-50738 | NBU 1022-9C2DS | Sec 09 T10S R22E 0224 FNL 2563 FWL |
| | BHL | Sec 09 T10S R22E 0591 FNL 1782 FWL |
| 43-047-50739 | NBU 1022-9C3CS | Sec 09 T10S R22E 0225 FNL 2583 FWL |
| | BHL | Sec 09 T10S R22E 1131 FNL 1548 FWL |
| 43-047-50740 | NBU 1022-9C4DS | Sec 09 T10S R22E 0227 FNL 2623 FWL |
| | BHL | Sec 09 T10S R22E 1141 FNL 2505 FWL |
| 43-047-50751 | NBU 920-21G | Sec 21 T09S R20E 1998 FNL 2319 FEL |

| API # | WELL NAME | LOCATION |
|---|---|---|

(Proposed PZ WASATCH-MESA VERDE)

| | | |
|---|---|---|
| 43-047-50752 | NBU 1022-8L3CS | Sec 08 T10S R22E 1761 FSL 0309 FWL |
| | BHL | Sec 08 T10S R22E 1330 FSL 0005 FWL |
| 43-047-50753 | NBU 1022-8M3DS | Sec 08 T10S R22E 1765 FSL 0329 FWL |
| | BHL | Sec 08 T10S R22E 0245 FSL 0350 FWL |
| 43-047-50754 | NBU 1022-8N1DS | Sec 08 T10S R22E 1772 FSL 0368 FWL |
| | BHL | Sec 08 T10S R22E 0940 FSL 2635 FWL |
| 43-047-50755 | NBU 1022-8N2DS | Sec 08 T10S R22E 1769 FSL 0348 FWL |
| | BHL | Sec 08 T10S R22E 0735 FSL 1700 FWL |
| 43-047-50756 | NBU 1022-35I1CS | Sec 35 T10S R22E 2335 FSL 0650 FEL |
| | BHL | Sec 35 T10S R22E 2170 FSL 0460 FEL |

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File – Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:9-18-09

# WORKSHEET
# APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 9/11/2009 **API NO. ASSIGNED:** 43047507390000

**WELL NAME:** NBU 1022-9C3CS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) **PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

**PROPOSED LOCATION:** NENW 9 100S 220E **Permit Tech Review:** ☑

**SURFACE:** 0225 FNL 2583 FWL **Engineering Review:** ☑

**BOTTOM:** 1131 FNL 1548 FWL **Geology Review:** ☑

**COUNTY:** UINTAH

**LATITUDE:** 39.97004 **LONGITUDE:** -109.44436

**UTM SURF EASTINGS:** 632854.00 **NORTHINGS:** 4425380.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 01196B **PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 1 - Federal **COALBED METHANE:** NO

**RECEIVED AND/OR REVIEWED:**

- ☑ **PLAT**
- ☑ **Bond:** FEDERAL - WYB000291
- ☐ **Potash**
- ☑ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☑ **Water Permit:** Permit #43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☑ **Intent to Commingle**

**Commingling Approved**

**LOCATION AND SITING:**

- ☐ **R649-2-3.**

**Unit:** NATURAL BUTTES

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☑ **Drilling Unit**

**Board Cause No:** Cause 173-14

**Effective Date:** 12/2/1999

**Siting:** 460' fr u bdry & uncomm. tract

- ☑ **R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:**
3 - Commingling - ddoucet
4 - Federal Approval - dmason
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason

GARY R. HERBERT
*Governor*
GREGORY S. BELL
*Lieutenant Governor*

**State of Utah**
**DEPARTMENT OF NATURAL RESOURCES**
MICHAEL R. STYLER
*Executive Director*
**Division of Oil, Gas and Mining**
JOHN R. BAZA
*Division Director*

# Permit To Drill

**********

**Well Name:** NBU 1022-9C3CS
**API Well Number:** 43047507390000
**Lease Number:** UTU 01196B
**Surface Owner:** FEDERAL
**Approval Date:** 9/29/2009

**Issued to:**
KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

**Authority:**
Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**Commingle:**
In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

**General:**
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**
State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

API Well No: 43047507390000

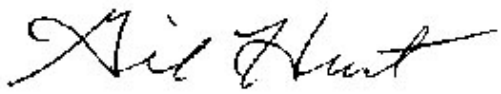
**Notification Requirements:**
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at https://oilgas.ogm.utah.gov

**Reporting Requirements:**
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**



Gil Hunt
Associate Director, Oil & Gas

API Well No: 43047507390000

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**5.LEASE DESIGNATION AND SERIAL NUMBER:** UTU 01196B

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** NATURAL BUTTES

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** NBU 1022-9C3CS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047507390000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6007 Ext

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 0225 FNL 2583 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ✓ NOTICE OF INTENT<br>Approximate date work will start: 9/30/2010 | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ SUBSEQUENT REPORT<br>Date of Work Completion: | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| ☐ DRILLING REPORT<br>Report Date: | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ✓ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

**Approved by the Utah Division of Oil, Gas and Mining**

**Date:** October 06, 2010

**By:**

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Danielle Piernot | 720 929-6156 | Regulatory Analyst |
| **SIGNATURE** | | **DATE** |
| N/A | | 9/30/2010 |

**RECEIVED** September 30, 2010

# The Utah Division of Oil, Gas, and Mining

**- State of Utah**
**- Department of Natural Resources**
**Electronic Permitting System - Sundry Notices**

## Request for Permit Extension Validation Well Number 43047507390000

**API:** 43047507390000
**Well Name:** NBU 1022-9C3CS
**Location:** 0225 FNL 2583 FWL QTR NENW SEC 09 TWNP 100S RNG 220E MER S
**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.
**Date Original Permit Issued:** 9/29/2009

**The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.**

- **If located on private land, has the ownership changed, if so, has the surface agreement been updated?** ○ **Yes** ◉ **No**
- **Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?** ○ **Yes** ◉ **No**
- **Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?** ○ **Yes** ◉ **No**
- **Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?** ○ **Yes** ◉ **No**
- **Has the approved source of water for drilling changed?** ○ **Yes** ◉ **No**
- **Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?** ○ **Yes** ◉ **No**
- **Is bonding still in place, which covers this proposed well?** ◉ **Yes** ○ **No**

**Approved by the Utah Division of Oil, Gas and Mining**

**Signature:** Danielle Piernot **Date:** 9/30/2010
**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date:** October 06, 2010
**By:**

**RECEIVED** September 30, 2010

Form 3160-3
(August 2007)

RECEIVED
SEP 18 2009

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

# APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
UTU01196B

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
891008900A

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone

8. Lease Name and Well No.
NBU 1022-9C3CS

2. Name of Operator
KERRMCGEE OIL&GAS ONSHORE LP
Contact: DANIELLE E PIERNOT
E-Mail: Danielle.Piernot@anadarko.com

9. API Well No.
43-047-50739

3a. Address
PO BOX 173779
DENVER, CO 80202-3779

3b. Phone No. (include area code)
Ph: 720-929-6156
Fx: 720-929-7156

10. Field and Pool, or Exploratory
NATURAL BUTTES

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface NENW 225FNL 2583FWL 39.97011 N Lat, 109.44503 W Lon

At proposed prod. zone NENW 1131FNL 1548FWL 39.96763 N Lat, 109.44872 W Lon

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 9 T10S R22E Mer SLB

14. Distance in miles and direction from nearest town or post office*
APPROXIMATELY 25 MILES SOUTHEAST OF OURAY, UTAH

12. County or Parish
UINTAH

13. State
UT

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
1131 FEET

16. No. of Acres in Lease
320.00

17. Spacing Unit dedicated to this well

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
APPROXIMATELY 590 FEET

19. Proposed Depth
9247 MD
8950 TVD

20. BLM/BIA Bond No. on file
WYB000291

21. Elevations (Show whether DF, KB, RT, GL, etc.
5191 GL

22. Approximate date work will start
09/28/2009

23. Estimated duration
60-90 DAYS

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature
(Electronic Submission)

Name (Printed/Typed)
DANIELLE E PIERNOT Ph: 720-929-6156

Date
09/11/2009

Title
REGULATORY ANALYST I

Approved by (Signature)

Name (Printed/Typed)
Jerry Kenczka

Date
JUN 09 2011

Title
Assistant Field Manager
Lands & Mineral Resources

Office
VERNAL FIELD OFFICE

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**Additional Operator Remarks (see next page)**

**Electronic Submission #74203 verified by the BLM Well Information System**
**For KERRMCGEE OIL&GAS ONSHORE LP, sent to the Vernal**
**Committed to AFMSS for processing by ROBIN R. HANSEN on 09/14/2009 ()**

RECEIVED
JUN 15 2011
DIV. OF OIL, GAS & MINING

NOTICE OF APPROVAL
UDOGM

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

09BXT3390AE

NOS 3-17-2009

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VERNAL FIELD OFFICE
170 South 500 East VERNAL, UT 84078 (435) 781-4400

## *CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL*

| | | | |
|---|---|---|---|
| **Company:** | **Kerr McGee Oil & Gas Onshore** | **Location:** | **NENW, Sec. 9, T10S, R22E** |
| **Well No:** | **NBU 1022-9C3CS** | **Lease No:** | **UTU-01196B** |
| **API No:** | **43-047-50739** | **Agreement:** | **Natural Buttes Unit** |

# OFFICE NUMBER: (435) 781-4400

# OFFICE FAX NUMBER: (435) 781-3420

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit was processed using a 390 CX tied to NEPA approved 02/05/2007. Therefore, this permit is approved for a two (2) year period OR until lease expiration OR the well must be spud by 02/05/2012 (5 years from the NEPA approval date), whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

## NOTIFICATION REQUIREMENTS

| | | |
|---|---|---|
| Location Construction<br>(Notify Environmental Scientist) | - | Forty-Eight (48) hours prior to construction of location and access roads. |
| Location Completion<br>(Notify Environmental Scientist) | - | Prior to moving on the drilling rig. |
| Spud Notice<br>(Notify Petroleum Engineer) | - | Twenty-Four (24) hours prior to spudding the well. |
| Casing String & Cementing<br>(Notify Supv. Petroleum Tech.) | - | Twenty-Four (24) hours prior to running casing and cementing all casing strings to: ut_vn_opreport@blm.gov. |
| BOP & Related Equipment Tests<br>(Notify Supv. Petroleum Tech.) | - | Twenty-Four (24) hours prior to initiating pressure tests. |
| First Production Notice<br>(Notify Petroleum Engineer) | - | Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days. |

## *SURFACE USE PROGRAM*
## *CONDITIONS OF APPROVAL (COAs)*

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of $NO_x$ per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.

- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of $NO_x$ per horsepower-hour.

- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.

- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.

- Kerr McGee will adhere to all applicant committed conservation measures and conservation recommendations that are stated in the USFWS's "Final Biological Opinion for the Anadarko Petroleum Corporation Natural Buttes Unit and Bonanza Area Natural Gas Development Project.

- The operator will follow the Green River District Reclamation Guidelines for Reclamation.

- The operator will control noxious weeds along the well pad, access road, and the pipeline route by spraying or mechanical removal. On BLM administered land, a Pesticides Use Proposal (PUP) will be submitted and approved prior to the application of herbicides or pesticides or possibly hazardous chemicals.

***DOWNHOLE PROGRAM***
***CONDITIONS OF APPROVAL (COAs)***

**SITE SPECIFIC DOWNHOLE COAs:**

- Gamma Ray Log shall be run from Total Depth to Surface.

**Variances Granted**

**Air Drilling**

- Properly lubricated and maintained rotating head, variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore, variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for two truck/trailer mounted air compressors located within 40 feet from the well bore and 60' from the blooie line.
- Mud Material Requirements. In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for kill fluid.
- Automatic igniter. Variance granted for igniter due to there being no productive formations while drilling with air.
- FIT test. Variance granted due to well know geology and problems that can occur with FIT test.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to.** The following items are emphasized:

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.

- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.

- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.

- No aggressive/fresh hard-banded drill pipe shall be used within casing.

- **Cement baskets shall not be run on surface casing.**

- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.

- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.

- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.

- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.

- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

- **Please submit an electronic copy of all other logs run on this well in LAS format to UT_VN_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**

- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

**OPERATING REQUIREMENT REMINDERS:**

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
    - Operator name, address, and telephone number.
    - Well name and number.
    - Well location (¼¼, Sec., Twn, Rng, and P.M.).
    - Date well was placed in a producing status (date of first production for which royalty will be paid).
    - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
    - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
    - Unit agreement and/or participating area name and number, if applicable.
    - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,

core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.

- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.

- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.

- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.

- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.

- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.

- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**5.LEASE DESIGNATION AND SERIAL NUMBER:** UTU 01196B

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** NATURAL BUTTES

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** NBU 1022-9C3CS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047507390000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6515 Ext

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 0225 FNL 2583 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ✓ NOTICE OF INTENT<br>Approximate date work will start: 8/22/2011 | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ SUBSEQUENT REPORT<br>Date of Work Completion: | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| ☐ DRILLING REPORT<br>Report Date: | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ✓ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

**Approved by the Utah Division of Oil, Gas and Mining**

**Date:** 08/22/2011

**By:**

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Andy Lytle | 720 929-6100 | Regulatory Analyst |
| **SIGNATURE** N/A | | **DATE** 8/22/2011 |

**RECEIVED** Aug. 22, 2011


**The Utah Division of Oil, Gas, and Mining**

**- State of Utah**
**- Department of Natural Resources**

**Electronic Permitting System - Sundry Notices**

## Request for Permit Extension Validation Well Number 43047507390000

**API:** 43047507390000
**Well Name:** NBU 1022-9C3CS
**Location:** 0225 FNL 2583 FWL QTR NENW SEC 09 TWNP 100S RNG 220E MER S
**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.
**Date Original Permit Issued:** 9/29/2009

**The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.**

- **If located on private land, has the ownership changed, if so, has the surface agreement been updated?** ○ **Yes** ◉ **No**
- **Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?** ○ **Yes** ◉ **No**
- **Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?** ○ **Yes** ◉ **No**
- **Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?** ○ **Yes** ◉ **No**
- **Has the approved source of water for drilling changed?** ○ **Yes** ◉ **No**
- **Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?** ○ **Yes** ◉ **No**
- **Is bonding still in place, which covers this proposed well?** ◉ **Yes** ○ **No**

**Signature:** Andy Lytle **Date:** 8/22/2011
**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**RECEIVED** Aug. 22, 2011

SUBMIT AS EMAIL | Print Form

# BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG
Submitted By JAIME SCHARNOWSKE Phone Number 720.929.6304
Well Name/Number NBU 1022-9C3CS
Qtr/Qtr NENW Section 9 Township 10S Range 22E
Lease Serial Number UTU01196B
API Number 4304750739

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 02/07/2012 09:00 HRS AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☑ Surface Casing
- ☐ Intermediate Casing
- ☐ Production Casing
- ☐ Liner
- ☐ Other

RECEIVED
FEB 0 2 2012
DIV. OF OIL, GAS & MINING

Date/Time 02/16/2012 08:00 HRS AM ☐ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point
- ☐ BOPE test at intermediate casing point
- ☐ 30 day BOPE test
- ☐ Other

Date/Time _____ _____ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT 435.828.0986 OR LOVEL YOUNG AT 435.781.7051

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**5.LEASE DESIGNATION AND SERIAL NUMBER:** UTU 01196B

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** NATURAL BUTTES

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** NBU 1022-9C3CS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047507390000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6526

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 0225 FNL 2583 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ☐ NOTICE OF INTENT Approximate date work will start: | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ SUBSEQUENT REPORT Date of Work Completion: | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| ✓ SPUD REPORT Date of Spud: 2/6/2012 | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ☐ DRILLING REPORT Report Date: | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

MIRU TRIPPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEUDLE 10 PIPE. CMT 28 SX READY MIX. SPUD WELL ON 02/06/2012 AT 1530 HRS.

**Accepted by the Utah Division of Oil, Gas and Mining**
**FOR RECORD ONLY**
February 15, 2012

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Sheila Wopsock | 435 781-7024 | Regulatory Analyst |
| **SIGNATURE** N/A | | **DATE** 2/9/2012 |

RECEIVED: Feb. 09, 2012

FORM 6

**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

# ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP
Operator Account Number: N 2995
Address: 1368 SOUTH 1200 EAST
city VERNAL
state UT zip 84078
Phone Number: (435) 781-7024

Well 1

| API Number | Well Name | | QQ | Sec | Twp | Rng | County |
|---|---|---|---|---|---|---|---|
| 4304750737 | NBU 1022-9B4CS | | NENW | 9 | 10S | 22E | UINTAH |
| **Action Code** | **Current Entity Number** | **New Entity Number** | **Spud Date** | | | **Entity Assignment Effective Date** | |
| A | 99999 | 2900 | 2/6/2012 | | | 2/15/12 | |

Comments: MIRU PETE MARTIN BUCKET RIG. SPUD WELL ON 02/06/2012 AT 0930 HRS. BHL: NWNE
WSMVD

Well 2

| API Number | Well Name | | QQ | Sec | Twp | Rng | County |
|---|---|---|---|---|---|---|---|
| 4304750740 | NBU 1022-9C4DS | | NENW | 9 | 10S | 22E | UINTAH |
| **Action Code** | **Current Entity Number** | **New Entity Number** | **Spud Date** | | | **Entity Assignment Effective Date** | |
| A | 99999 | 2900 | 2/6/2012 | | | 2/15/12 | |

Comments: MIRU PETE MARTIN BUCKET RIG. SPUD WELL ON 02/06/2012 AT 1230 HRS. BHL: NENW
WSMVD

Well 3

| API Number | Well Name | | QQ | Sec | Twp | Rng | County |
|---|---|---|---|---|---|---|---|
| 4304750739 | NBU 1022-9C3CS | | NENW | 9 | 10S | 22E | UINTAH |
| **Action Code** | **Current Entity Number** | **New Entity Number** | **Spud Date** | | | **Entity Assignment Effective Date** | |
| A | 99999 | 2900 | 2/6/2012 | | | 2/15/12 | |

Comments: MIRU PETE MARTIN BUCKET RIG. SPUD WELL ON 02/06/2012 AT 1530 HRS. BHL: NENW
WSMVD

**ACTION CODES:**
- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SHEILA WOPSOCK
Name (Please Print)
Signature
REGULATORY ANALYST
Title
2/8/2012
Date

RECEIVED
FEB 09 2012
Div. of Oil, Gas & Mining

(5/2000)

**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

**FORM 9**

**5.LEASE DESIGNATION AND SERIAL NUMBER:**
UTU 01196B

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:**
NATURAL BUTTES

**1. TYPE OF WELL**
Gas Well

**8. WELL NAME and NUMBER:**
NBU 1022-9C3CS

**2. NAME OF OPERATOR:**
KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:**
43047507390000

**3. ADDRESS OF OPERATOR:**
P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

**PHONE NUMBER:**
720 929-6515

**9. FIELD and POOL or WILDCAT:**
NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:**
0225 FNL 2583 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:**
Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S

**COUNTY:**
UINTAH

**STATE:**
UTAH

**11.**
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ☐ NOTICE OF INTENT<br>Approximate date work will start: | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ SUBSEQUENT REPORT<br>Date of Work Completion: | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ✓ DRILLING REPORT<br>Report Date:<br>2/20/2012 | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

MIRU AIR RIG ON FEBRUARY 17, 2012. DRILLED SURFACE HOLE TO 2,570'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.

**Accepted by the Utah Division of Oil, Gas and Mining**
**FOR RECORD ONLY**
February 29, 2012

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Jaime Scharnowske | 720 929-6304 | Regulartory Analyst |
| **SIGNATURE** | | **DATE** |
| N/A | | 2/21/2012 |

RECEIVED: Feb. 21, 2012

**FEDERAL APPROVAL OF THIS ACTION IS NECESSARY**

**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

**5.LEASE DESIGNATION AND SERIAL NUMBER:**
UTU 01196B

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:**
NATURAL BUTTES

**1. TYPE OF WELL**
Gas Well

**8. WELL NAME and NUMBER:**
NBU 1022-9C3CS

**2. NAME OF OPERATOR:**
KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:**
43047507390000

**3. ADDRESS OF OPERATOR:**
P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

**PHONE NUMBER:**
720 929-6515

**9. FIELD and POOL or WILDCAT:**
NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:**
0225 FNL 2583 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:**
Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S

**COUNTY:**
UINTAH

**STATE:**
UTAH

**11.**
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ✓ NOTICE OF INTENT<br>Approximate date work will start:<br>3/6/2012 | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| | ✓ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ☐ SUBSEQUENT REPORT<br>Date of Work Completion: | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ☐ DRILLING REPORT<br>Report Date: | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

The operator requests approval to deepen the well to the Blackhawk formation (part of the Mesaverde Group). The Operator also requests approval for closed loop drilling option, surface casing change, and a production casing change. All other aspects of the previously approved drilling plan will not change. Please see the attachment. Thank you.

**Approved by the Utah Division of Oil, Gas and Mining**

**Date:** March 22, 2012

**By:** Dark K Quist

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Jaime Scharnowske | 720 929-6304 | Regulartory Analyst |
| **SIGNATURE** | | **DATE** |
| N/A | | 3/6/2012 |

RECEIVED: Mar. 06, 2012

# Kerr-McGee Oil & Gas Onshore. L.P.

**NBU 1022-9C3CS**

Surface: 225 FNL / 2583 FWL NENW
BHL: 1131 FNL / 1548 FWL NENW

Section 9 T10S R22E

Unitah County, Utah
Mineral Lease: UTU-01196

**ONSHORE ORDER NO. 1**

**DRILLING PROGRAM**

**1. & 2. Estimated Tops of Important Geologic Markers:**
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

| Formation | Depth | Resource |
|---|---|---|
| Uinta | 0 - Surface | |
| Green River | 1,169' | |
| Birds Nest | 1,521' | Water |
| Mahogany | 1,971' | Water |
| Wasatch | 4,344' | Gas |
| Mesaverde | 6,826' | Gas |
| Sego | 8,942' | Gas |
| Castlegate | 9,044' | Gas |
| Blackhawk | 9,464' | Gas |
| TVD | 10,064' | |
| TD | 10,293' | |

**3. Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

**4. Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

**5. Drilling Fluids Program:**

Please refer to the attached Drilling Program

**6. Evaluation Program:**

Please refer to the attached Drilling Program

RECEIVED: Mar. 06, 2012

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 10064' TVD, approximately equals 6,642 psi (0.66 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,474 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

**8. Anticipated Starting Dates:**

Drilling is planned to commence immediately upon approval of this application.

**9. Variances:**

Please refer to the attached Drilling Program.
Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

**Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may

be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

**Variance for BOPE Requirements**
The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

**Variance for Mud Material Requirements**
Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

**Variance for Special Drilling Operation (surface equipment placement) Requirements**
Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

RECEIVED: Mar. 06, 2012

**Variance for FIT Requirements**
KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

**Conclusion**
The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

**10. Other Information:**

Please refer to the attached Drilling Program.

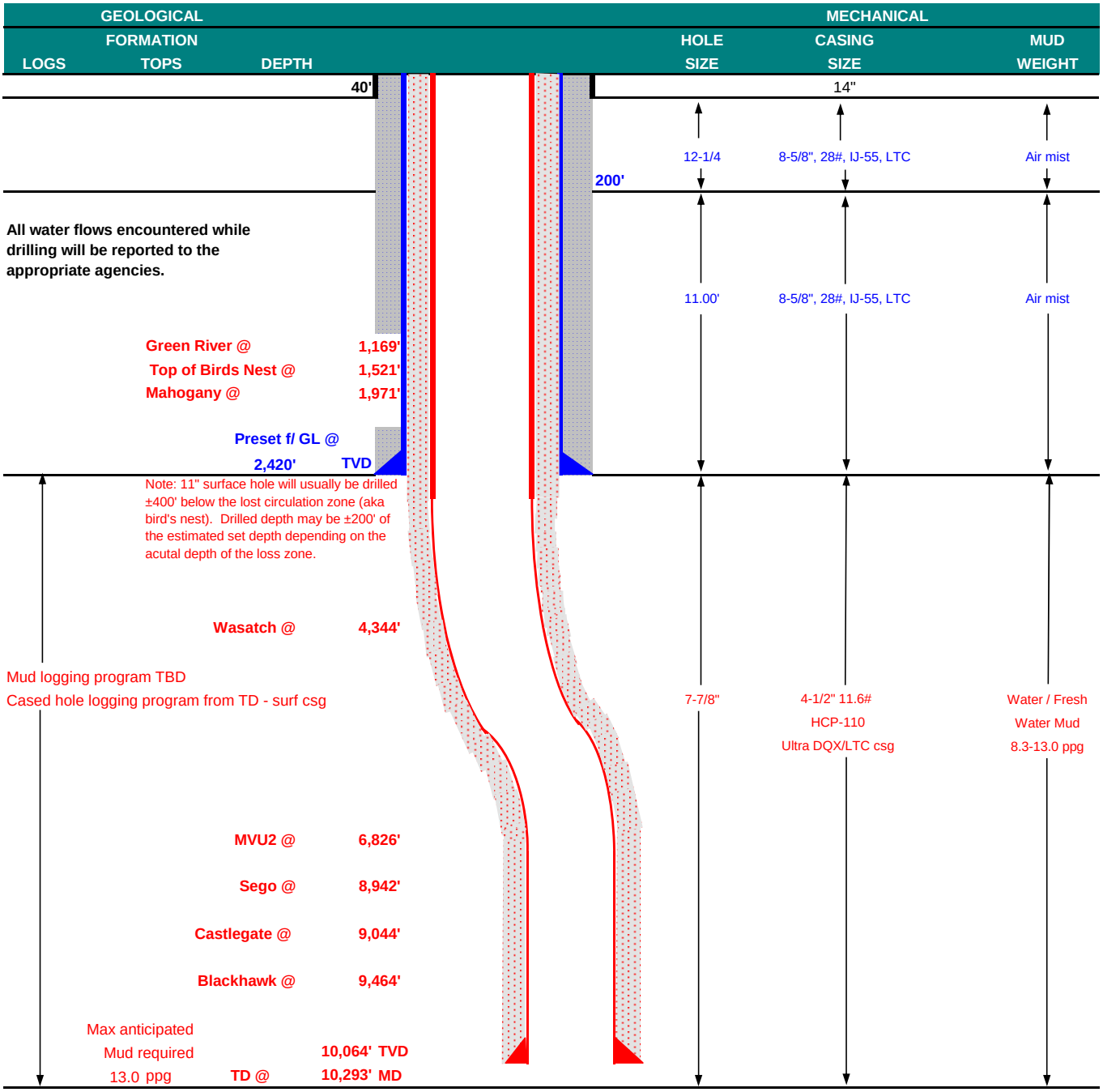
RECEIVED: Mar. 06, 2012

KerrMcGee

# KERR-McGEE OIL & GAS ONSHORE LP

## DRILLING PROGRAM

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| COMPANY NAME | KERR-McGEE OIL & GAS ONSHORE LP | | | | DATE | February 8, 2012 | |
| WELL NAME | **NBU 1022-9C3CS** | | | | TD | 10,064' TVD | 10,293' MD |
| FIELD | Natural Buttes | COUNTY | Uintah | STATE | Utah | FINISHED ELEVATION | 5,191' |
| SURFACE LOCATION | NENW | 225 FNL | 2583 FWL | Sec 9 | T 10S | R 22E | |
| | Latitude: | 39.970111 | Longitude: | -109.445033 | | NAD 83 | |
| BTM HOLE LOCATION | NENW | 1131 FNL | 1548 FWL | Sec 9 | T 10S | R 22E | |
| | Latitude: | 39.967630 | Longitude: | -109.448716 | | NAD 83 | |
| OBJECTIVE ZONE(S) | BLACKHAWK (Part of the Mesaverde Group) | | | | | | |
| ADDITIONAL INFO | Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept. | | | | | | |



NBU 1022-9C3CS



# KERR-McGEE OIL & GAS ONSHORE LP

## DRILLING PROGRAM

### CASING PROGRAM

| | SIZE | INTERVAL | | | WT. | GR. | CPLG. | DESIGN FACTORS BURST | COLLAPSE | TENSION LTC | TENSION DQX |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CONDUCTOR | 14" | 0-40' | | | | | | | | | |
| | | | | | | | | 3,390 | 1,880 | 348,000 | N/A |
| SURFACE | 8-5/8" | 0 | to | 2,420 | 28.00 | IJ-55 | LTC | 2.22 | 1.66 | 5.86 | N/A |
| | | | | | | | | 10,690 | 8,650 | 279,000 | 367,174 |
| PRODUCTION | 4-1/2" | 0 | to | 5,000 | 11.60 | HCP-110 | DQX | 1.19 | 1.27 | | 3.84 |
| | 4-1/2" | 5,000 | to | 10,293' | 11.60 | HCP-110 | LTC | 1.19 | 1.27 | 5.67 | |

**Surface Casing:**

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

### CEMENT PROGRAM

| | | FT. OF FILL | DESCRIPTION | SACKS | EXCESS | WEIGHT | | YIELD |
|---|---|---|---|---|---|---|---|---|
| SURFACE | LEAD | 500' | Premium cmt + 2% CaCl | 180 | 60% | 15.80 | | 1.15 |
| **Option 1** | | | + 0.25 pps flocele | | | | | |
| | TOP OUT CMT (6 jobs) | 1,200' | 20 gals sodium silicate + Premium cmt | 270 | 0% | 15.80 | | 1.15 |
| | | | + 2% CaCl + 0.25 pps flocele | | | | | |
| SURFACE | | | **NOTE: If well will circulate water to surface, option 2 will be utilized** | | | | | |
| **Option 2** | LEAD | 1,920' | 65/35 Poz + 6% Gel + 10 pps gilsonite | 180 | 35% | 11.00 | | 3.82 |
| | | | + 0.25 pps Flocele + 3% salt BWOW | | | | | |
| | TAIL | 500' | Premium cmt + 2% CaCl | 150 | 35% | 15.80 | | 1.15 |
| | | | + 0.25 pps flocele | | | | | |
| | TOP OUT CMT | as required | Premium cmt + 2% CaCl | as req. | | 15.80 | | 1.15 |
| PRODUCTION | LEAD | 3,843' | Premium Lite II +0.25 pps | 300 | 35% | 12.00 | | 3.38 |
| | | | celloflake + 5 pps gilsonite + 10% gel | | | | | |
| | | | + 0.5% extender | | | | | |
| | TAIL | 6,450' | 50/50 Poz/G + 10% salt + 2% gel | 1,520 | 35% | 14.30 | | 1.31 |
| | | | + 0.1% R-3 | | | | | |

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

### FLOAT EQUIPMENT & CENTRALIZERS

| | |
|---|---|
| SURFACE | Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe |
| | |
| PRODUCTION | Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter. |
| | |

### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:** _____ **DATE:** _____

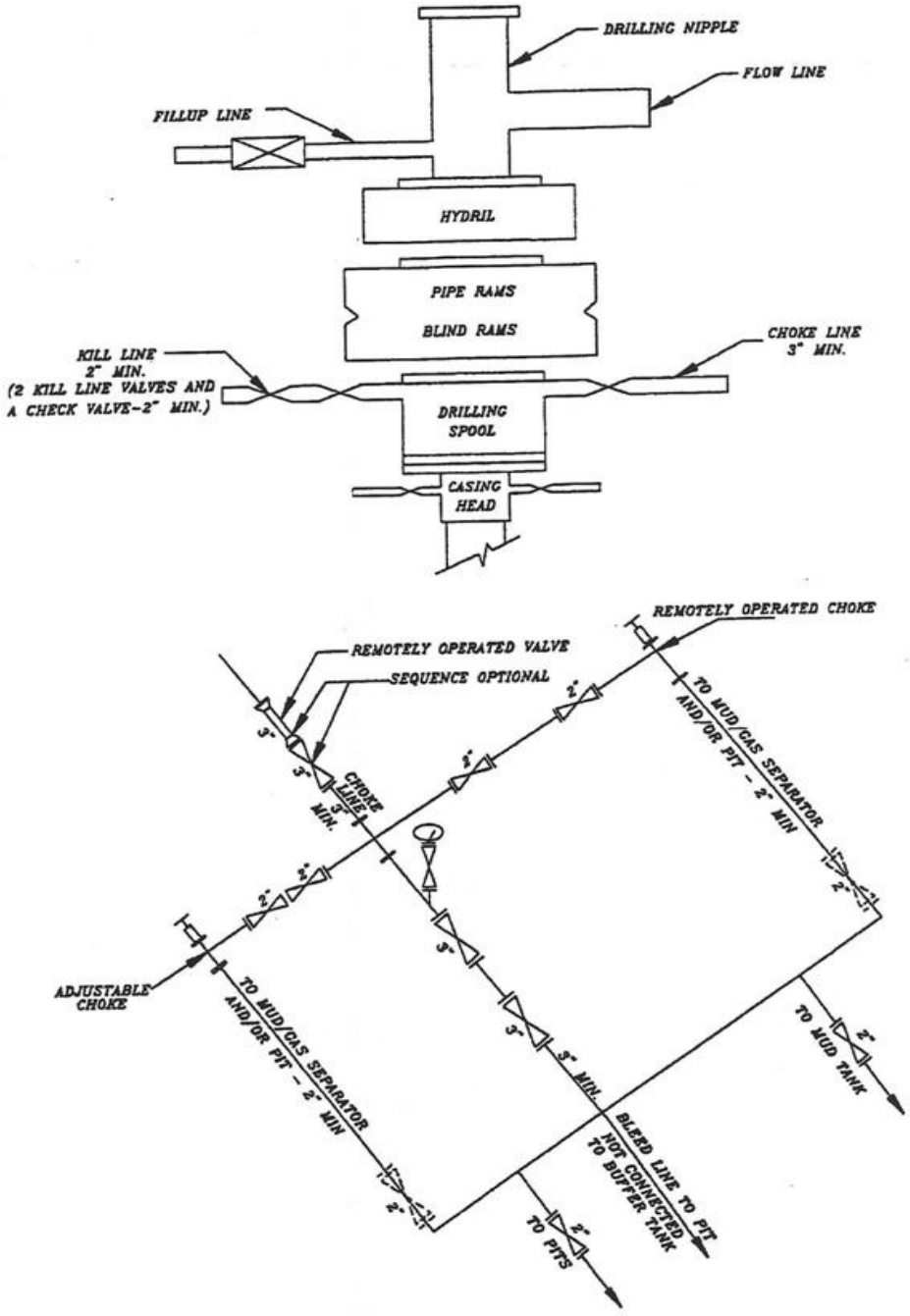
Nick Spence / Danny Showers / Chad Loesel

**DRILLING SUPERINTENDENT:** _____ **DATE:** _____

Kenny Gathings / Lovel Young

RECEIVED: Mar. 06, 2012

**EXHIBIT A**
**NBU 1022-9C3CS**




**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

RECEIVED: Mar. 06, 2012

Requested Drilling Options:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

RECEIVED: Mar. 06, 2012

**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

**5.LEASE DESIGNATION AND SERIAL NUMBER:** UTU 01196B

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** NATURAL BUTTES

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** NBU 1022-9C3CS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047507390000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6515

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 0225 FNL 2583 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ☐ NOTICE OF INTENT Approximate date work will start: | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ SUBSEQUENT REPORT Date of Work Completion: | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| ☐ SPUD REPORT Date of Spud: | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ✓ DRILLING REPORT Report Date: 4/13/2012 | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

MIRU ROTARY RIG. FINISHED DRILLING FROM 2570' TO 10300'ON 4/10/2012. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED H&P 298 RIG ON 4/13/2012 @ 24:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.

**Accepted by the Utah Division of Oil, Gas and Mining**
**FOR RECORD ONLY**
April 24, 2012

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Jaime Scharnowske | 720 929-6304 | Regulartory Analyst |
| **SIGNATURE** N/A | | **DATE** 4/16/2012 |

RECEIVED: Apr. 16, 2012

# STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**5.LEASE DESIGNATION AND SERIAL NUMBER:** UTU 01196B

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** NATURAL BUTTES

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** NBU 1022-9C3CS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047507390000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6526

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 0225 FNL 2583 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ☐ NOTICE OF INTENT Approximate date work will start: | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ SUBSEQUENT REPORT Date of Work Completion: | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| ☐ SPUD REPORT Date of Spud: | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ✓ DRILLING REPORT Report Date: 6/26/2012 | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ✓ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 6/26/2012 AT 12:00 P.M. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.

**Accepted by the Utah Division of Oil, Gas and Mining**
**FOR RECORD ONLY**
June 27, 2012

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Cara Mahler | 720 929-6029 | Regulatory Analyst I |
| **SIGNATURE** N/A | | **DATE** 6/27/2012 |

RECEIVED: Jun. 27, 2012

**STATE OF UTAH**
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

**5.LEASE DESIGNATION AND SERIAL NUMBER:** UTU 01196B

## SUNDRY NOTICES AND REPORTS ON WELLS

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**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** NATURAL BUTTES

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** NBU 1022-9C3CS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047507390000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6515

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 0225 FNL 2583 FWL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

**11.** CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ☐ NOTICE OF INTENT Approximate date work will start: | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| ☐ SUBSEQUENT REPORT Date of Work Completion: | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| ☐ SPUD REPORT Date of Spud: | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ✓ DRILLING REPORT Report Date: 8/3/2012 | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ☐ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.**

Well was completed, finishing well completion report.

**Accepted by the Utah Division of Oil, Gas and Mining**
**FOR RECORD ONLY**
August 07, 2012

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Jaime Scharnowske | 720 929-6304 | Regulartory Analyst |
| **SIGNATURE** N/A | | **DATE** 8/3/2012 |

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

# WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No. UTU01196B

1a. Type of Well ☐ Oil Well ☒ Gas Well ☐ Dry ☐ Other
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other _____

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No. UTU63047A

2. Name of Operator KERR MCGEE OIL & GAS ONSHORE LP Contact: CARA MAHLER E-Mail: cara.mahler@anadarko.com

8. Lease Name and Well No. NBU 1022-9C3CS

3. Address 1099 18TH STREET, SUITE 1800 DENVER, CO 80202

3a. Phone No. (include area code) Ph: 720-929-6029

9. API Well No. 43-047-50739

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

At surface NENW 225FNL 2583FWL 39.970112 N Lat, 109.445032 W Lon

At top prod interval reported below NENW 1110FNL 1541FWL

At total depth NENW 1174FNL 1588FWL BHL by HSM

10. Field and Pool, or Exploratory NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey or Area Sec 9 T10S R22E Mer SLB

12. County or Parish UINTAH

13. State UT

| 14. Date Spudded | 15. Date T.D. Reached | 16. Date Completed | 17. Elevations (DF, KB, RT, GL)* |
|---|---|---|---|
| 02/26/2012 | 04/10/2012 | ☐ D & A ☒ Ready to Prod. 06/26/2012 | 5191 GL |

| 18. Total Depth: | 19. Plug Back T.D.: | 20. Depth Bridge Plug Set: |
|---|---|---|
| MD 10300 TVD 10067 | MD 10261 TVD 10028 | MD TVD |

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
CBL/GR/CCL-BHV-DSN/SD/ACTR

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record *(Report all strings set in well)*

| Hole Size | Size/Grade | Wt. (#/ft.) | Top (MD) | Bottom (MD) | Stage Cementer Depth | No. of Sks. & Type of Cement | Slurry Vol. (BBL) | Cement Top* | Amount Pulled |
|---|---|---|---|---|---|---|---|---|---|
| 20.000 | 14.000 STL | 36.7 | 0 | 40 | | 28 | | | |
| 11.000 | 8.625 IJ-55 | 28.0 | 0 | 2554 | | 1050 | | 0 | |
| 7.875 | 4.500 P-110 | 11.6 | 0 | 10284 | | 2097 | | 1360 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

24. Tubing Record

| Size | Depth Set (MD) | Packer Depth (MD) | Size | Depth Set (MD) | Packer Depth (MD) | Size | Depth Set (MD) | Packer Depth (MD) |
|---|---|---|---|---|---|---|---|---|
| 2.375 | 8716 | | | | | | | |

25. Producing Intervals / 26. Perforation Record

| | Formation | Top | Bottom | Perforated Interval | Size | No. Holes | Perf. Status |
|---|---|---|---|---|---|---|---|
| A) | MESAVERDE | 7024 | 9870 | 7024 TO 9870 | 0.360 | 231 | OPEN |
| B) | | | | | | | |
| C) | | | | | | | |
| D) | | | | | | | |

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

| Depth Interval | Amount and Type of Material |
|---|---|
| 7024 TO 9870 | PUMP 10,265 BBLS SLICK H2O & 208,887 LBS 30/50 OTTAWA SAND |
| | |
| | |
| | |

28. Production - Interval A

| Date First Produced | Test Date | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
|---|---|---|---|---|---|---|---|---|---|
| 06/26/2012 | 06/30/2012 | 24 | → | 0.0 | 2758.0 | 240.0 | | | FLOWS FROM WELL |

| Choke Size | Tbg. Press. Flwg. SI | Csg. Press. | 24 Hr. Rate | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio | Well Status |
|---|---|---|---|---|---|---|---|---|
| 20/64 | 1762 SI | 1674.0 | → | 0 | 2758 | 240 | | PGW |

28a. Production - Interval B

| Date First Produced | Test Date | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
|---|---|---|---|---|---|---|---|---|---|
| | | | → | | | | | | |

| Choke Size | Tbg. Press. Flwg. SI | Csg. Press. | 24 Hr. Rate | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio | Well Status |
|---|---|---|---|---|---|---|---|---|
| | | | → | | | | | |

*(See Instructions and spaces for additional data on reverse side)*

**ELECTRONIC SUBMISSION #145530 VERIFIED BY THE BLM WELL INFORMATION SYSTEM**
**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

RECEIVED
AUG 21 2012
DIV. OF OIL, GAS & MINING

28b. Production - Interval C

| Date First Produced | Test Date | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
|---|---|---|---|---|---|---|---|---|---|
| | | | → | | | | | | |

| Choke Size | Tbg. Press. Flwg. SI | Csg. Press. | 24 Hr. Rate | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio | Well Status |
|---|---|---|---|---|---|---|---|---|
| | | | → | | | | | |

28c. Production - Interval D

| Date First Produced | Test Date | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
|---|---|---|---|---|---|---|---|---|---|
| | | | → | | | | | | |

| Choke Size | Tbg. Press. Flwg. SI | Csg. Press. | 24 Hr. Rate | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio | Well Status |
|---|---|---|---|---|---|---|---|---|
| | | | → | | | | | |

29. Disposition of Gas *(Sold, used for fuel, vented, etc.)*
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

| Formation | Top | Bottom | Descriptions, Contents, etc. | Name | Top Meas. Depth |
|---|---|---|---|---|---|
| | | | | GREEN RIVER | 1163 |
| | | | | BIRD'S NEST | 1511 |
| | | | | MAHOGANY | 1889 |
| | | | | WASATCH | 4503 |
| | | | | MESAVERDE | 6886 |

32. Additional remarks (include plugging procedure):
The first 194? of the surface hole was drilled with a 12 ?? bit. The remainder of surface hole was drilled with an 11? bit. DQX P-110 csg was run from surface to 5116?; LTC P-110 csg was run from 5116? to 10,284?. Attached is the chronological well history, perforation report & final survey.

33. Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)
2. Geologic Report
3. DST Report
4. Directional Survey
5. Sundry Notice for plugging and cement verification
6. Core Analysis
7 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #145530 Verified by the BLM Well Information System.**
**For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal**

Name *(please print)* CARA MAHLER Title AUTHORIZED REPRESENTATIVE

Signature (Electronic Submission) Date 08/10/2012

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fradulent statements or representations as to any matter within its jurisdiction.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | | Spud Date: 2/17/2012 |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: H&P 298/298, CAPSTAR 310/310 |
| Event: DRILLING | Start Date: 2/2/2012 | | End Date: 4/13/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 2/17/2012 | 13:30 - 16:00 | 2.50 | DRLSUR | 01 | C | P | | MOVE RIG TO NBU 1022-9C3CS (WELL3 OF 4 . INSTALL DIVERTOR HEAD AND BOUY LINE. BUILD DITCH. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. INSPECT RIG. HELD PRE-SPUD SAFETY MEETING. |
| | 16:00 - 18:00 | 2.00 | DRLSUR | 01 | B | P | | WELD ON ROT HEAD |
| | 18:00 - 19:00 | 1.00 | DRLSUR | 01 | B | P | | PU 12.25" BHA, PREPARE TO SPUD |
| | 19:00 - 23:30 | 4.50 | DRLSUR | 02 | D | P | | DRILL TO 194'. |
| | 23:30 - 0:00 | 0.50 | DRLSUR | 05 | C | P | | CIRC PRIOR TO TOH FOR BHA CHANGE |
| 2/18/2012 | 0:00 - 11:00 | 11.00 | DRLSUR | 02 | D | P | | PU 11.00" BIT, DIR TOOLS DRILL F/ 194' T/ 1187'. WOB 22, RPM 45, ON/OFF BTM 1030/925, UP/DWN/ROT 82/70/75 |
| | 11:00 - 11:30 | 0.50 | DRLSUR | 07 | A | P | | RIG SERVICE |
| | 11:30 - 15:00 | 3.50 | DRLSUR | 02 | D | P | | DRILL F/ 1187' T/ 1405', ON AIR (800CFM) AT 1342'. |
| | 15:00 - 17:30 | 2.50 | DRLSUR | 08 | A | Z | | PULL 2 STANDS OFF BTM, PUMP 1 DOWN, REPAIRING |
| | 17:30 - 18:00 | 0.50 | DRLSUR | 02 | D | P | | TIH TO BTM, TRY TO CIRC, BIT ACTS PLUGGED UP |
| | 18:00 - 22:00 | 4.00 | DRLSUR | 06 | H | Z | | TOH, LDDS BIT/DIR TOOL INSPECTION. BIT IS PLUGGED UP, PRESSURE FROM THAT BLEW SEALS ON MOTOR. |
| | 22:00 - 0:00 | 2.00 | DRLSUR | 06 | H | Z | | PU SPARE 1.83 MOTOR, DIR TOOLS TIH REAMING FROM 10 STANDS OFF BOTTOM, |
| 2/19/2012 | 0:00 - 10:00 | 10.00 | DRLSUR | 02 | D | P | | DRILL F/ 1405' T/ 2362'. CFM 800. WOB 23, ROT 48, ON/OFF 1450/937. UP/DWN/ROT 97/81/89. |
| | 10:00 - 11:00 | 1.00 | DRLSUR | 08 | B | S | | REPAIR BLOWIE LINE, LOSS OF PIT WATER. |
| | 11:00 - 13:30 | 2.50 | DRLSUR | 21 | E | S | | WAIT ON WATER FOR PIT. WATER LOST DURING BLOWIE LINE REPAIR AND DOWN HOLE |
| | 13:30 - 16:00 | 2.50 | DRLSUR | 02 | D | P | | DRILL F/ 2362' TO 2570', TD. WOB 22, ROT 48, RPM 45. UP/DWN/ROT 115/90/101. ON/OFF BTM 1260/1069 |
| | 16:00 - 17:00 | 1.00 | DRLSUR | 05 | C | P | | CIRC PRIOR TO TRIP |
| | 17:00 - 21:30 | 4.50 | DRLSUR | 06 | D | P | | POOH LDDS AND DIR TOOLS. BREAK DOWN BHA FOR CSI INSPECTION. MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIG UP TO RUN CSG. AND MOVE CSG INTO POSITION TO P/U. |
| | 21:30 - 0:00 | 2.50 | DRLSUR | 12 | C | | | RUN 57 JTS 8 5/8, 28# CSNG. LAND CSNG @ 0000, SHOE SET @ 2527', BAFFLE SET @ 2481' |

# US ROCKIES REGION

## Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | | Spud Date: 2/17/2012 |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: H&P 298/298, CAPSTAR 310/310 |
| Event: DRILLING | Start Date: 2/2/2012 | | End Date: 4/13/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 2/20/2012 | 0:00 - 4:00 | 4.00 | DRLSUR | 12 | E | P | | PRESSURE TEST LINES TO 1000 PSI. PUMP 20 BBLS OF WATER AHEAD. PUMP 20 BBLS OF 8.3# GEL WATER AHEAD. PUMP (300 SX) 61.4 BBLS OF15.8# 1.15 YD 5 GAL/SK PREMIUM CEMENT. DROP PLUG ON FLY. DISPLACE W/ 152 BBLS OF H20 PUMP 150SX (30.7 BBLS) OF 15.8# 1.15 YD 5 GAL/SX PREMIUM CEMENT. FINAL LIFT OF 130 PSI AT 4 BBL/MIN. BUMP PLUG W/500 PSI HELD FOR 5 MIN. FLOAT DID HOLD. PUMP (150 SX) 30.7 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE. WAIT 1 HOURS, PUMP ADDITIONAL (225 SX) 46 BBLS OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE.SHUT DOWN AND CLEAN TRUCK. NO CEMENT TO SURFACE.<br><br>PUMP ADDITIONAL (225 SX) 46 BBLS OF SAME TAIL CEMENT W/ 4% CALC DOWN WELL 2/2. CEMENT TO SUFACE |
| 4/4/2012 | 19:00 - 0:00 | 5.00 | MIRU | 01 | C | P | | PREPARE & SKID RIG / RIG DOWN BACK YARD |
| 4/5/2012 | 0:00 - 6:00 | 6.00 | MIRU | 01 | E | P | | RIG DOWN BACK YARD & PREPARE TO MOVE BACK YARD |
| | 6:00 - 18:00 | 12.00 | MIRU | 01 | B | P | | MOVE BACK YARD & RIG UP SAME / RW JONES 2 TRUCKS / 1 FORK LIFT - 7 PEOPLE / J & C CRANES - 1CRANE 5 PEOPLE / H & P 12 PEOPLE / NOV 5 PEOPLE / MI SWACO 4 PEOPLE |
| | 18:00 - 21:00 | 3.00 | MIRU | 01 | B | P | | RU MI SWACO & NOV - THIRD PARTY EQUIPMENT |
| | 21:00 - 22:00 | 1.00 | PRPSPD | 14 | A | P | | NU BOP'S & EQUIPMENT |
| | 22:00 - 0:00 | 2.00 | PRPSPD | 15 | A | P | | PRE JOB SAFETY MEETING - TEST CSG TO 1500 PSI / TEST BOP & EQUIPMENT AS PER PROGRAM 250/5000 PSI / 250 / 2500 ANNULAR |
| 4/6/2012 | 0:00 - 2:30 | 2.50 | PRPSPD | 15 | A | P | | PRESSURE TEST BOP'S AS PER PROGRAM 250/5000 PSI AND 250/2500 ON ANNULAR |
| | 2:30 - 3:00 | 0.50 | PRPSPD | 14 | B | P | | INSTALL WEAR BUSHING |
| | 3:00 - 3:30 | 0.50 | PRPSPD | 14 | A | P | | INSTALL SMITH ROTATING BEARING ASSY. |
| | 3:30 - 4:30 | 1.00 | PRPSPD | 15 | A | P | | PRESSURE TEST MI SWACO PRESSURE CONTROL EQUIPMENT |
| | 4:30 - 5:00 | 0.50 | PRPSPD | 23 | | P | | PRE SPUD INSPECTION & MEETING |
| | 5:00 - 7:00 | 2.00 | PRPSPD | 06 | A | P | | PICK UP & MAKE UP DIRECTIONAL BHA # 1 WITH WEATHERFORD SCRIBE ,ORIENTATE AND TEST SAME |
| | 7:00 - 9:30 | 2.50 | PRPSPD | 06 | A | P | | TRIP IN HOLE WITH BHA # 1 TAG CEMENT@ 2,418' |
| | 9:30 - 11:00 | 1.50 | PRPSPD | 07 | B | P | | LEVEL DERRICK ,INSTALL ROTATING RUBBER & TEST MI SWACO PRESSURE CONTROL EQUIPMENT |
| | 11:00 - 12:30 | 1.50 | PRPSPD | 09 | A | P | | CUT & SLIP 134' DRILLING LINE |
| | 12:30 - 13:00 | 0.50 | PRPSPD | 07 | A | P | | SERVICE RIG @ 2,418' |
| | 13:00 - 14:00 | 1.00 | DRLPRO | 02 | F | P | | DRILL CEMENT & SHOE TRACK FROM 2,418' TO 2,537' CLEAN OUT RAT HOLE TO 2,592' |

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | Spud Date: 2/17/2012 | |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: H&P 298/298, CAPSTAR 310/310 |
| Event: DRILLING | Start Date: 2/2/2012 | | End Date: 4/13/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 14:00 - 0:00 | 10.00 | DRLPRO | 02 | D | P | | DRILL / SLIDE / SURVEY FROM / 2,592' TO 3,663' = 1071 '@ 107.1 FPH<br>WOB 18,000-24,000<br>TOP DRIVE RPM 45-70<br>MUD MOTOR RPM 89<br>PUMPS 124 SPM=558 GPM<br>PUMP PRESSURE ON/OFF BTM 1975 / 1675<br>TORQUE ON/OFF BTM 9,000/ 4,000<br>PICK UP WT 115,000<br>SLACK OFF WT 91,000<br>ROT WT 102,000<br>SLIDE 228' IN 157 MIN 27.54% OF FOOTAGE DRILLED,20.44% OF HRS DRILLED<br>MUD WT 8.5 VIS 28 |
| 4/7/2012 | 0:00 - 6:00 | 6.00 | DRLPRO | 02 | D | P | | DRILL / SLIDE / SURVEY FROM / 3,663' TO 4,240' =577'@ 96.16 FPH<br>WOB 18,000-24,000<br>TOP DRIVE RPM 45-70<br>MUD MOTOR RPM 89<br>PUMPS 124 SPM=558 GPM<br>PUMP PRESSURE ON/OFF BTM 1975 / 1675<br>TORQUE ON/OFF BTM 9,000/ 4,000<br>PICK UP WT 120,000<br>SLACK OFF WT 92,000<br>ROT WT 105,000<br>SLIDE 175' IN 147 MIN 30.43% OF FOOTAGE DRILLED,40.8% OF HRS DRILLED<br>MUD WT 8.6 VIS 28<br>MAX GAS 500 UNITS |
| | 6:00 - 13:30 | 7.50 | DRLPRO | 02 | D | P | | DRILL / SLIDE / SURVEY FROM / 4,240' TO 5,169' = 929'@ 123.86 FPH<br>WOB 20,000-24,000<br>TOP DRIVE RPM 45-70<br>MUD MOTOR RPM 89<br>PUMPS 124 SPM=558 GPM<br>PUMP PRESSURE ON/OFF BTM 2100/1800<br>TORQUE ON/OFF BTM 10,000/ 8,000<br>PICK UP WT 150,000<br>SLACK OFF WT 112,000<br>ROT WT 128,000<br>SLIDE 20' IN 15 MIN 3.125% OF FOOTAGE DRILLED,2.14% OF HRS DRILLED<br>MUD WT 8.7 VIS 29<br>MAX GAS 705 UNITS |
| | 13:30 - 14:00 | 0.50 | DRLPRO | 07 | A | P | | SERVICE RIG @ 5,169' |

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | | Spud Date: 2/17/2012 |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: H&P 298/298, CAPSTAR 310/310 |
| Event: DRILLING | Start Date: 2/2/2012 | | End Date: 4/13/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 14:00 - 0:00 | 10.00 | DRLPRO | 02 | D | P | | DRILL / SLIDE / SURVEY FROM / 5,169' TO 6,295' = 1,126'@ 112.60 FPH<br>WOB 22,000-24,000<br>TOP DRIVE RPM 45-65<br>MUD MOTOR RPM 89<br>PUMPS 124 SPM=558 GPM<br>PUMP PRESSURE ON/OFF BTM 2150/1850<br>TORQUE ON/OFF BTM 11,000/ 10,000<br>PICK UP WT 180,000<br>SLACK OFF WT 125,000<br>ROT WT 145,000<br>SLIDE 71' IN 72 MIN 6.32% OF FOOTAGE DRILLED,12.20% OF HRS DRILLED<br>MUD WT 8.6 VIS 29<br>MAX GAS 900 UNITS |
| 4/8/2012 | 0:00 - 7:30 | 7.50 | DRLPRO | 02 | D | P | | DRILL / SLIDE / SURVEY FROM / 6,295' TO 7,059' = 764'@ 101.86 FPH<br>WOB 20,000-24,000<br>TOP DRIVE RPM 45-70<br>MUD MOTOR RPM 89<br>PUMPS 124 SPM=558 GPM<br>PUMP PRESSURE ON/OFF BTM 2250/2125<br>TORQUE ON/OFF BTM 14,000/ 11,000<br>PICK UP WT 196,000<br>SLACK OFF WT 132,000<br>ROT WT 158,000<br>SLIDE16' IN 23 MIN 2.38% OF FOOTAGE DRILLED 5.47% OF HRS DRILLED<br>MUD WT 8.6 VIS 29<br>MAX GAS 705 UNITS |
| | 7:30 - 11:30 | 4.00 | DRLPRO | 06 | E | P | | WIPER TRIP FROM 7,059' TO 4,440' / TIH WITH NO PROBLEMS - WASH LAST 2 STDS TO BOTTOM - 2' OF FILL<br>TRIP GAS 765 UNITS |
| | 11:30 - 15:00 | 3.50 | DRLPRO | 02 | D | P | | DRILL / SLIDE / SURVEY FROM / 7,059' TO 7,341' = 285'@ 81.42 FPH<br>WOB 23,000-26,000<br>TOP DRIVE RPM 55-60<br>MUD MOTOR RPM 89<br>PUMPS 124 SPM=558 GPM<br>PUMP PRESSURE ON/OFF BTM 2250/2100<br>TORQUE ON/OFF BTM 10,000/ 8,000<br>PICK UP WT 196,000<br>SLACK OFF WT 132,000<br>ROT WT 158,000<br>SLIDE 35' IN 65 MIN 9.25% OF FOOTAGE DRILLED 32.5% OF HRS DRILLED<br>MUD WT 8.6 VIS 29<br>MAX GAS 830 UNITS |
| | 15:00 - 15:30 | 0.50 | DRLPRO | 07 | A | P | | SERVICE RIG @ 7,341' |

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | Spud Date: 2/17/2012 | |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: H&P 298/298, CAPSTAR 310/310 |
| Event: DRILLING | Start Date: 2/2/2012 | | End Date: 4/13/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 15:30 - 0:00 | 8.50 | DRLPRO | 02 | D | P | | DRILL / SLIDE / SURVEY FROM / 7,341' TO 8,217' = 876'@ 103.05 FPH<br>WOB 23,000-26,000<br>TOP DRIVE RPM 55-60<br>MUD MOTOR RPM 89<br>PUMPS 124 SPM=558 GPM<br>PUMP PRESSURE ON/OFF BTM 2275/2050<br>TORQUE ON/OFF BTM 16,000/ 15,000<br>PICK UP WT 225,000<br>SLACK OFF WT 143,000<br>ROT WT 175,000<br>SLIDE12' IN 30 MIN .37% OF FOOTAGE DRILLED<br>6.25% OF HRS DRILLED<br>MUD WT 8.7 VIS 29<br>MAX GAS 2430 UNITS |
| 4/9/2012 | 0:00 - 16:30 | 16.50 | DRLPRO | 02 | D | P | | DRILL / SLIDE / SURVEY / FROM / 8,217' TO 9,235' = 1,018'@ 61.70 FPH<br>WOB 23,000-26,000<br>TOP DRIVE RPM 55-60<br>MUD MOTOR RPM 89<br>PUMPS 110 SPM= 495 GPM<br>PUMP PRESSURE ON/OFF BTM 1900 / 1700<br>TORQUE ON/OFF BTM 19,000/ 18,000<br>PICK UP WT 246,000<br>SLACK OFF WT 158,000<br>ROT WT 193,000<br>SLIDE 14' IN 33 MIN .013% OF FOOTAGE DRILLED<br>.033% OF HRS DRILLED<br>MUD WT 8.8 VIS 30<br>MAX GAS 3205 UNITS<br>MI SWACO ON LINE 100-250 ANNULAUS PRESSURE 10 TO 20 ' FLARE |
| | 16:30 - 17:00 | 0.50 | DRLPRO | 07 | A | P | | SERVICE RIG @ 9,235' |
| | 17:00 - 0:00 | 7.00 | DRLPRO | 02 | D | P | | DRILL / SURVEY / FROM / 9235' TO 9,492' = 257'@ 36.71 FPH<br>WOB 23,000-26,000<br>TOP DRIVE RPM 35-45<br>MUD MOTOR RPM 72<br>PUMPS 100 SPM= 450 GPM<br>PUMP PRESSURE ON/OFF BTM 1800/ 1675<br>TORQUE ON/OFF BTM 19,000/ 18,000<br>PICK UP WT 258,000<br>SLACK OFF WT 162,000<br>ROT WT 196,000<br>MUD WT 8.8 VIS 31<br>MAX GAS 4450 UNITS<br>MI SWACO ON LINE 100-200 ANNULAUS PRESSURE 10 TO 20 ' FLARE |

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | Spud Date: 2/17/2012 | |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: H&P 298/298, CAPSTAR 310/310 |
| Event: DRILLING | Start Date: 2/2/2012 | | End Date: 4/13/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 4/10/2012 | 0:00 - 11:30 | 11.50 | DRLPRO | 02 | D | P | | DRILL / SURVEY / FROM / 9,492' TO 9,893' = 401'@ 34.86 FPH<br>WOB 24,000-26,000<br>TOP DRIVE RPM 35-45<br>MUD MOTOR RPM 72<br>PUMPS 100 SPM= 450 GPM<br>PUMP PRESSURE ON/OFF BTM 1800/ 1675<br>TORQUE ON/OFF BTM 20,000/ 19,000<br>PICK UP WT 258,000<br>SLACK OFF WT 162,000<br>ROT WT 198,000<br>MUD WT 9.5 VIS 33<br>MAX GAS 2405 UNITS<br>MI SWACO ON LINE 100-200 ANNULAUS PRESSURE 10 TO 15 ' FLARE |
| | 11:30 - 12:00 | 0.50 | DRLPRO | 22 | H | X | | WORK PIPE DUE TO HIGH TORQUE |
| | 12:00 - 16:00 | 4.00 | DRLPRO | 02 | D | P | | DRILL / SURVEY / FROM / 9,893' TO 10,085' = 192'@ 48 FPH<br>WOB 24,000-30,000<br>TOP DRIVE RPM 55<br>MUD MOTOR RPM 79<br>PUMPS 110 SPM= 495 GPM<br>PUMP PRESSURE ON/OFF BTM 1800/ 1675<br>TORQUE ON/OFF BTM 20,000/ 19,000<br>PICK UP WT 262,000<br>SLACK OFF WT 164,000<br>ROT WT202,000<br>MUD WT 9.9 VIS 34<br>MAX GAS 1380 UNITS<br>MI SWACO ON LINE 100-200 ANNULAUS PRESSURE 10 TO 15 ' FLARE |
| | 16:00 - 16:30 | 0.50 | DRLPRO | 07 | A | P | | SERVICE RIG @ 10,085' |
| | 16:30 - 21:00 | 4.50 | DRLPRO | 02 | D | P | | DRILL / SURVEY / FROM / 10,085' TO 10,300' TD = 215'@ 53.75 FPH<br>WOB 24,000-30,000<br>TOP DRIVE RPM 55<br>MUD MOTOR RPM 79<br>PUMPS 110 SPM= 495 GPM<br>PUMP PRESSURE ON/OFF BTM 1800/ 1675<br>TORQUE ON/OFF BTM 18,000/ 16,000<br>PICK UP WT 255,000<br>SLACK OFF WT 176,000<br>ROT WT 200,000<br>MUD WT 11.6 VIS 34<br>MAX GAS 2405 UNITS<br>MI SWACO ON LINE 100-450 ANNULAUS PRESSURE 10 TO 15 ' FLARE |
| | 21:00 - 22:30 | 1.50 | DRLPRO | 05 | C | P | | CIRCULATE & CONDITION MUD @ 10,300' TD / MI SWACO OFF LINE @ 21:00 HRS |
| | 22:30 - 0:00 | 1.50 | DRLPRO | 06 | E | P | | WIPER TRIP/ FLOW / CHECK BACKREAM FROM 10,300' TO 9,950' |
| 4/11/2012 | 0:00 - 2:00 | 2.00 | DRLPRO | 06 | E | P | | WIPER TRIP / WORK TIGHT HOLE FROM 9.950' TO 9,810/ TOOH TO 9,150' ( 150 BBL MUD LOSE ) |
| | 2:00 - 4:30 | 2.50 | DRLPRO | 05 | A | X | | BUILD VOLUME |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | Spud Date: 2/17/2012 | |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: H&P 298/298, CAPSTAR 310/310 |
| Event: DRILLING | Start Date: 2/2/2012 | | End Date: 4/13/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 4:30 - 5:30 | 1.00 | DRLPRO | 06 | E | P | | TIH F/ 9,150' TO 10,300' NO FILL / PUMP 50 BBL 20 PPB LCM |
| | 5:30 - 8:30 | 3.00 | DRLPRO | 05 | A | P | | CIRCULATE & CONDITION MUD / RAISE MUD WT TO 11.8 PPG ( NO GAS NO MUD CUT ON BTM'S UP ) |
| | 8:30 - 13:00 | 4.50 | DRLPRO | 06 | E | P | | WIPER TRIP TO CASING SHOE,TIGHT SPOT@ 4,673',PULLTO CASING SHOE,2537',FILL PIPE, FLOW CHECK |
| | 13:00 - 13:30 | 0.50 | DRLPRO | 07 | A | P | | RIG SERVICE |
| | 13:30 - 17:30 | 4.00 | DRLPRO | 06 | E | P | | TRIP IN HOLE TO 10,115',BREAK CIRC @4,500 6,800 8,500 WASH 185' TO BOTTOM,6' FILL |
| | 17:30 - 19:30 | 2.00 | DRLPRO | 05 | C | P | | CIRC & COND HOLE FOR OPEN HOLE LOGS,PUMP SWEEP, MW 11.8,NO MUD CUT ON BTMS UP |
| | 19:30 - 0:00 | 4.50 | DRLPRO | 06 | B | P | | TRIP OUT FOR LOGS, WORK OUT TIGHT SPOT @ 4,673,FLOW CHECK @ SHOE |
| 4/12/2012 | 0:00 - 2:30 | 2.50 | DRLPRC | 06 | B | P | | TOH /F/ LOGS,L/D MWD,MUD MTR |
| | 2:30 - 4:30 | 2.00 | EVALPR | 11 | G | P | | CTJSA RIG UP HALLIBURTON,RUN TRIPLE COMBO BRIGDED OUT @ 4,700', |
| | 4:30 - 6:00 | 1.50 | EVALPR | 11 | G | X | | PULL OUT / R/D HALCO LOG TOOLS |
| | 6:00 - 6:30 | 0.50 | EVALPR | 07 | E | P | | RIG SERVICE |
| | 6:30 - 13:00 | 6.50 | EVALPR | 06 | A | X | | P/U TRICONE BIT TIH,CLEAN OUT BRIDGE @ 4,700-03,CIH TO 10,115,WASH 185'TO BTM 18' FILL,NO MUD CUT ON BTMS UP,NO MUD LOSS |
| | 13:00 - 15:00 | 2.00 | EVALPR | 05 | F | X | | CIRC AND CONDITION HOLE FOR OPEN HOLE LOGS RAISE MUD WT TO 12.0# VIS 44 |
| | 15:00 - 20:30 | 5.50 | EVALPR | 06 | E | X | | TRIP OUT FOR LOGS 2ND ATTEMPT, HOLE GOOD,FLOW CHECK @ SHOE |
| | 20:30 - 0:00 | 3.50 | EVALPR | 11 | G | P | | CTJSA RIG UP HALLIBURTON,RUN TRIPLE COMBO LOGGER DEPTH 10,278 DRILLER DEPTH 10,300,LOG OUT |
| 4/13/2012 | 0:00 - 3:00 | 3.00 | EVALPR | 11 | G | P | | RUN TRIPLE COMBO F/ 10,278 TO SURFACE R/D SAME |
| | 3:00 - 4:00 | 1.00 | CSGPRO | 14 | B | P | | REMOVE SMITH BEARING ASSEMBLY,PULL WEAR BUSHING,INSTALL BEARING ASSEMBLY |
| | 4:00 - 4:30 | 0.50 | CSGPRO | 12 | A | P | | X/O DRILLING BAILS & ELEVATORS |
| | 4:30 - 6:00 | 1.50 | CSGPRO | 12 | A | P | | REVIEW CTJSA STANDARDS &GUIDELINES WITH CASERS & RIG CREWS,R/U KIMZEY |
| | 6:00 - 16:00 | 10.00 | CSGPRO | 12 | C | P | | MAKE UP FLOAT EQUIP, RUN 4 1/2" PRODUCTION CASING TO 10,284' W/ NO PROBLEMS / SHOE @ 10,284' / FLOAT COLLAR @ 10,264' BLACK HAWK MARKER @ 9,648' / M VERDE MARKER @ 7,051' / X-O @ 5,090' TOTAL JTS RAN 244 |
| | 16:00 - 17:30 | 1.50 | CSGPRO | 05 | D | P | | CIRCULATE & CONDITION MUD @ 10,284' RIG DOWN KIMZEY CASERS / PRE JOB SAFETY MEETING WITH BJ CEMENTERS |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | Spud Date: 2/17/2012 | |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: H&P 298/298, CAPSTAR 310/310 |
| Event: DRILLING | Start Date: 2/2/2012 | | End Date: 4/13/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 17:30 - 21:00 | 3.50 | CSGPRO | 12 | E | P | | INSTALL BJ CMT HEAD , TEST PUMP & LINES TO 5,000 PSI, ,DROP BOTTOM PLUG PUMP 5 BBLS FW 40 BBLS SEAL BOND SPACER @12.0# PUMP 552 SKS LEAD CEMENT @ 12.5 PPG,(198.6 BBLS) (PREM LITE II + .0.25 pps CELLO FLAKE + 10 pps KOL SEAL + .05 lb/sx STATIC FREE + 6% bwoc BENTONITE + .4% bwoc SODIUM META SILICATE + ..3 % R-3 + 118% FRESH WATER / (10.62 gal/sx, 2.02 yield) + 1,545 SX TAIL @ 14.3 ppg(346.8 BBLS)+ (CLS G 50/50 POZ + 10% SALT + .05llbs/sx STATIC FREE + .2% R3 + .002 GPS FP-6L + 2% BENTONITE +0.5%EC-1+ 58.6% FW / (5.94 gal/sx, 1.32 yield) / DROP TOP PLUG & DISPLACE W/ 159.6 BBLS H2O + ADDITIVES / PLUG DOWN @ 19:27 HOURS / FLOATS HELD W/ 2 BBLS H2O RETURNED TO INVENTORY/ LOST RETURNS @150 BBLS IN DISPLACEMENT WITH 5 BBLS LEAD CMT TO SURFACE / LIFT PRESSURE @2,900 PSI / BUMP PRESSURE TO 3,460 PSI / TOP OF TAIL CEMENT CALCULATED @ 3,900 / RIG DOWN CMT EQUIP' |
| | 21:00 - 22:30 | 1.50 | CSGPRO | 12 | E | P | | FLUSH OUT & PICK UP BOP STACK,SET C-22 CSG SLIPS W/ 105,000,CUT OFF CASING,X/O BAILS |
| | 22:30 - 0:00 | 1.50 | CSGPRO | 01 | E | P | | CLEAN PITS /PREP TO SKID / RIG RELEASED TO NBU 1022-9C2DS @24:00 HRS 04/13/2012 |

# 1 General

## 1.1 Customer Information

| | |
|---|---|
| **Company** | US ROCKIES REGION |
| **Representative** | |
| **Address** | |

## 1.2 Well/Wellbore Information

| | | | |
|---|---|---|---|
| **Well** | NBU 1022-9C3CS YELLOW | **Wellbore No.** | OH |
| **Well Name** | NBU 1022-9C3CS | **Wellbore Name** | NBU 1022-9C3CS |
| **Report No.** | 1 | **Report Date** | 6/7/2012 |
| **Project** | UTAH-UINTAH | **Site** | NBU 1022-9C PAD |
| **Rig Name/No.** | | **Event** | COMPLETION |
| **Start Date** | 6/7/2012 | **End Date** | 6/26/2012 |
| **Spud Date** | 2/17/2012 | **Active Datum** | RKB @5,217.00usft (above Mean Sea Level) |
| **UWI** | NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

## 1.3 General

| | | | | | |
|---|---|---|---|---|---|
| **Contractor** | | **Job Method** | | **Supervisor** | |
| **Perforated Assembly** | | **Conveyed Method** | | | |

## 1.4 Initial Conditions

| | | | |
|---|---|---|---|
| **Fluid Type** | | **Fluid Density** | |
| **Surface Press** | | **Estimate Res Press** | |
| **TVD Fluid Top** | | **Fluid Head** | |
| **Hydrostatic Press** | | **Press Difference** | |
| **Balance Cond** | NEUTRAL | | |

## 1.5 Summary

| | | | |
|---|---|---|---|
| **Gross Interval** | 7,024.0 (usft)-9,870.0 (usft | **Start Date/Time** | 6/8/2012 12:00AM |
| **No. of Intervals** | 39 | **End Date/Time** | 6/8/2012 12:00AM |
| **Total Shots** | 231 | **Net Perforation Interval** | 71.00 (usft) |
| **Avg Shot Density** | 3.25 (shot/ft) | **Final Surface Pressure** | |
| | | **Final Press Date** | |

# 2 Intervals

## 2.1 Perforated Interval

| Date | Formation/ Reservoir | CCL@ (usft) | CCL-TS (usft) | MD Top (usft) | MD Base (usft) | Shot Density (shot/ft) | Misfires/ Add. Shot | Diameter (in) | Carr Type /Stage No | Carr Size (in) | Phasing (°) | Charge Desc /Charge Manufacturer | Charge Weight (gram) | Reason | Misrun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,024.0 | 7,030.0 | 4.00 | | 0.360 | EXP/ | 3.375 | 90.00 | | 23.00 | PRODUCTION | |

## 2.1 Perforated Interval (Continued)

| Date | Formation/ Reservoir | CCL@ (usft) | CCL-TS (usft) | MD Top (usft) | MD Base (usft) | Shot Density (shot/ft) | Misfires/ Add. Shot | Diameter (in) | Carr Type /Stage No | Carr Size (in) | Phasing (°) | Charge Desc /Charge Manufacturer | Charge Weight (gram) | Reason | Misrun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,240.0 | 7,243.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,310.0 | 7,315.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,408.0 | 7,409.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,441.0 | 7,442.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,470.0 | 7,471.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,503.0 | 7,504.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,532.0 | 7,533.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,552.0 | 7,553.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,594.0 | 7,595.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,767.0 | 7,768.0 | 4.00 | | 0.360 | EXP/ | 3.375 | 90.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,860.0 | 7,862.0 | 4.00 | | 0.360 | EXP/ | 3.375 | 90.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,888.0 | 7,891.0 | 4.00 | | 0.360 | EXP/ | 3.375 | 90.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 7,980.0 | 7,982.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,018.0 | 8,019.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,044.0 | 8,046.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,090.0 | 8,093.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,254.0 | 8,255.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,290.0 | 8,292.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,334.0 | 8,338.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,400.0 | 8,402.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,428.0 | 8,430.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |

## 2.1 Perforated Interval (Continued)

| Date | Formation/ Reservoir | CCL@ (usft) | CCL-TS (usft) | MD Top (usft) | MD Base (usft) | Shot Density (shot/ft) | Misfires/ Add. Shot | Diameter (in) | Carr Type /Stage No | Carr Size (in) | Phasing (°) | Charge Desc /Charge Manufacturer | Charge Weight (gram) | Reason | Misrun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,456.0 | 8,458.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,486.0 | 8,488.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,543.0 | 8,544.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,561.0 | 8,562.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,600.0 | 8,602.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,645.0 | 8,646.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,662.0 | 8,663.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,690.0 | 8,692.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,753.0 | 8,754.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,830.0 | 8,831.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,860.0 | 8,861.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,889.0 | 8,891.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 8,965.0 | 8,966.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 9,010.0 | 9,011.0 | 3.00 | | 0.360 | EXP/ | 3.375 | 120.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 9,804.0 | 9,806.0 | 4.00 | | 0.360 | EXP/ | 3.375 | 90.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 9,845.0 | 9,847.0 | 4.00 | | 0.360 | EXP/ | 3.375 | 90.00 | | 23.00 | PRODUCTION | |
| 6/8/2012 12:00AM | MESAVERDE/ | | | 9,868.0 | 9,870.0 | 4.00 | | 0.360 | EXP/ | 3.375 | 90.00 | | 23.00 | PRODUCTION | |

# 3 Plots

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | Spud Date: 2/17/2012 | |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: SWABBCO 8/8 |
| Event: COMPLETION | Start Date: 6/7/2012 | | End Date: 6/26/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 2/17/2012 | - | | | | | | | |
| 6/7/2012 | 11:00 - 12:30 | 1.50 | COMP | 33 | | P | | FILL SURFACE CSG. MIRU B&C QUICK TEST.<br>PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 9 PSI.<br>PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 43 PSI.<br>1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 89 PSI.<br>NO COMMUNICATION OR MIGRATION WITH SURFACE CSG<br>BLEED OFF PSI. MOVE T/ NEXT WELL.<br>SWIFW |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | | Spud Date: 2/17/2012 |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: SWABBCO 8/8 |
| Event: COMPLETION | Start Date: 6/7/2012 | | End Date: 6/26/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 6/18/2012 | 8:30 - 18:00 | 9.50 | COMP | 36 | B | P | | PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING, 24 HOLES. RIH PERF AS PER DESIGN. POOH.<br><br>FRAC STG 1)WHP 111 PSI, BRK 4626 PSI @ 4.7 BPM. ISIP 3300 PSI, FG .74.<br>CALC HOLES OPEN @ 52.2 BPM @ 5867 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN)<br>ISIP 3423 PSI, FG .79, NPI 123 PSI.<br>MP 7472 PSI, MR 54.9 BPM, AP 6055 PSI, AR 50 BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br>X-OVER FOR W L<br><br>PERF STG 2)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING, 21 HOLES. RIH SET CBP @ 9041' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.<br><br>FRAC STG 2)WHP 1250 PSI, BRK 2290 PSI @ 4.7 BPM. ISIP 1859 PSI, FG .65.<br>CALC HOLES OPEN @ 52.8 BPM @ 5042 PSI = 100% HOLES OPEN. (21/21 HOLES OPEN)<br>ISIP 2599 PSI, FG .73, NPI 740 PSI.<br>MP 5618 PSI, MR 52.9 BPM, AP 4793 PSI, AR 52.4 BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br>X-OVER FOR W L<br><br>PERF STG 3)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING, 24 HOLES. RIH SET CBP @ 8722' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.<br><br>FRAC STG 3)WHP 432 PSI, BRK 2998 PSI @ 4.7 BPM. ISIP 2282 PSI, FG .70.<br>CALC HOLES OPEN @ 52.6 BPM @ 4523 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN)<br>ISIP 2711 PSI, FG .75, NPI 429 PSI.<br>MP 5103 PSI, MR 53.4 BPM, AP 4549 PSI, AR 52.5 BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br>SWIFN. |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | Spud Date: 2/17/2012 | |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: SWABBCO 8/8 |
| Event: COMPLETION | Start Date: 6/7/2012 | | End Date: 6/26/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 6/19/2012 | 8:00 - 18:00 | 10.00 | COMP | 36 | B | P | | PERF STG 4)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. 24 HOLES. RIH SET CBP @ 8518' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.<br><br>FRAC STG 4)WHP 730 PSI, BRK 3378 PSI @ 3.9 BPM. ISIP 1899 PSI, FG .66.<br>CALC HOLES OPEN @ 52.6 BPM @ 4593 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN)<br>ISIP 2511 PSI, FG .74, NPI 612 PSI.<br>MP 6481 PSI, MR 54.2 BPM, AP 4833 PSI, AR 50.9 BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br>X-OVER FOR W L<br><br>PERF STG 5)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. 21 HOLES. RIH SET CBP @ 8368' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.<br><br>FRAC STG 5)WHP 1070 PSI, BRK 3028 PSI @ 4.8 BPM. ISIP 2197 PSI, FG .70.<br>CALC HOLES OPEN @ 50.5 BPM @ 4708 PSI = 100% HOLES OPEN. (21/21 HOLES OPEN)<br>ISIP 2527 PSI, FG .74, NPI 330 PSI.<br>MP 4758 PSI, MR 56.8 BPM, AP 4273 PSI, AR 50.2 BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br>X-OVER FOR W L<br><br>PERF STG 6)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. 24 HOLES. RIH SET CBP @ 8123' P/U PERF AS PER DESIGN. SWIFN. |

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | Spud Date: 2/17/2012 | |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: SWABBCO 8/8 |
| Event: COMPLETION | Start Date: 6/7/2012 | | End Date: 6/26/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| 6/20/2012 | 7:30 - 18:00 | 10.50 | COMP | 36 | B | P | | FRAC STG 6)WHP 1159 PSI, BRK 3010 PSI @ 4.8 BPM. ISIP 1545 PSI, FG .63.<br>CALC HOLES OPEN @ 54.2 BPM @ 4298 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN)<br>ISIP 2479 PSI, FG .75, NPI 934 PSI.<br>MP 5130 PSI, MR 55.8 BPM, AP 4700 PSI, AR 54.6 BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br>X-OVER FOR WL<br><br>PERF STG 7)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. 24 HOLES. RIH SET CBP @ 7921' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.<br><br>FRAC STG 7)WHP 184 PSI, BRK 3166 PSI @ 4.8 BPM. ISIP 1312 PSI, FG .61.<br>CALC HOLES OPEN @ 53.1 BPM @ 4831 PSI = 80% HOLES OPEN. (19/24 HOLES OPEN)<br>ISIP 2352 PSI, FG .74, NPI 1040 PSI.<br>MP 5331 PSI, MR 53.4 BPM, AP 5022 PSI, AR 52.8 BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br>X-OVER FOR WL<br><br>PERF STG 8)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. 21 HOLES. RIH SET CBP @ 7625' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.<br><br>FRAC STG 8)WHP 135 PSI, BRK 2399 PSI @ 4.8 BPM. ISIP 1296 PSI, FG .61.<br>CALC HOLES OPEN @ 53.2 BPM @ 4394 PSI = 100% HOLES OPEN. (21/21 HOLES OPEN)<br>ISIP 1980 PSI, FG .71, NPI 684 PSI.<br>MP 4833 PSI, MR 53.6 BPM, AP 4626 PSI, AR 52.5 BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br>X-OVER FOR WL<br><br>PERF STG 9)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. 24 HOLES. RIH SET CBP @ 7345' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.<br><br>FRAC STG 9)WHP 1075 PSI, BRK 1924 PSI @ 4.7 BPM. ISIP 1645 PSI, FG .66.<br>CALC HOLES OPEN @ 52.2 BPM @ 5408 PSI = 71% HOLES OPEN. (17/24 HOLES OPEN)<br>ISIP 2134 PSI, FG .73, NPI 489 PSI.<br>MP 5411 PSI, MR 53.1 BPM, AP 4257 PSI, AR 52.5 BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br>X-OVER FOR WL<br><br>PERF STG 10)PU 4 1/2 8K HAL CBP & 3 1/8 EXP |

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | | Spud Date: 2/17/2012 |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: SWABBCO 8/8 |
| Event: COMPLETION | Start Date: 6/7/2012 | | End Date: 6/26/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. 24 HOLES. RIH SET CBP @ 7060' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.<br><br>FRAC STG 10)WHP 257 PSI, BRK 2476 PSI @ 4.6 BPM. ISIP 1213 PSI, FG .61.<br>CALC HOLES OPEN @ 52.8 BPM @ 3972 PSI = 92% HOLES OPEN. (22/24 HOLES OPEN)<br>ISIP 2155 PSI, FG .75, NPI 942 PSI.<br>MP 4590 PSI, MR 53.3 BPM, AP 4314 PSI, AR 52.9 BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE<br>X-OVER FOR W L<br><br>PU 4 1/2 8K HAL CBP. RIH SET KILL PLUG @ 7020'. POOH, SWI. RDMO SUPERIOR FRAC SERV & CASEDHOLE SOLUTIONS WL. SDFN.<br><br>TOTAL SAND = 208,887 LBS.<br>TOTAL CLFL = 10,265 BBL. |
| 6/25/2012 | 7:00 - 7:30 | 0.50 | COMP | 48 | | P | | HSM, RIGGING DOWN & RIGGING UP. |
| | 7:30 - 9:00 | 1.50 | COMP | 30 | A | P | | RIG DWN OFF GREEN WELL, MOVE OVER & RIG UP. |
| | 9:00 - 14:00 | 5.00 | COMP | 31 | I | P | | ND WH NU BOPS, RU FLOOR & TBG EQUIP. TALLY & PU 37/8 BIT, POBS, 1.875 X/N 220 JTS 23/8, RU DRLG EQUIP BROKE CIRC CONV, TEST BOPS TO 4,000 PSI OK, RIH |
| | 14:00 - 16:30 | 2.50 | COMP | 44 | C | P | | C/O 5' SAND TAG 1ST PLUG @ 6,974' DRL PLG IN 5 MIN, 200# PSI INCREASE RIH<br><br>C/O 15' SAND TAG 2ND PLUG @ 7,060' DRL PLG IN 4 MIN, 500# PSI INCREASE RIH<br><br>C/O 10' SAND TAG 3RD PLUG @ 7,345' DRL PLG IN 4 MIN, 400# PSI INCREASE RIH<br><br>C/O 25' SAND TAG 4TH PLUG @ 7,625' DRL PLG IN 4 MIN, 300# PSI INCREASE,RIH 1JT EOT @ 7692' CIR CLEAN WORK TBG, SWI LOCK RAMS SDFN. |
| 6/26/2012 | 7:00 - 7:30 | 0.50 | COMP | 48 | | P | | HSM, OPERATING EQUIP. |

US ROCKIES REGION

# Operation Summary Report

| | | | |
|---|---|---|---|
| Well: NBU 1022-9C3CS YELLOW | | Spud Date: 2/17/2012 | |
| Project: UTAH-UINTAH | Site: NBU 1022-9C PAD | | Rig Name No: SWABBCO 8/8 |
| Event: COMPLETION | Start Date: 6/7/2012 | | End Date: 6/26/2012 |
| Active Datum: RKB @5,217.00usft (above Mean Sea Level) | UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/225.00/W/0/2,583.00/0/0 | | |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation |
|---|---|---|---|---|---|---|---|---|
| | 7:30 - 15:00 | 7.50 | COMP | 44 | C | P | | SICP 2100 PSI, OPEN TO PIT, RIH.<br><br>C/O 15' SAND TAG 5TH PLUG @ 7,921' DRL PLG IN 3 MIN, 100# PSI INCREASE RIH<br><br>C/O 25' SAND TAG 6TH PLUG @ 8,135' DRL PLG IN 3 MIN, 1000# PSI INCREASE RIH<br><br>C/O 30' SAND TAG 7TH PLUG @ 8,368' DRL PLG IN 3 MIN, 600# PSI INCREASE RIH<br><br>C/O 25' SAND TAG 8TH PLUG @ 8,518' DRL PLG IN 4 MIN, 1200# PSI INCREASE RIH<br><br>C/O 30' SAND TAG 9TH PLUG @ 8,722' DRL PLG IN 3 MIN, 1200# PSI INCREASE RIH<br><br>C/O 45' SAND TAG 10TH PLUG @ 9,050' DRL PLG IN 8 MIN, 900# PSI INCREASE RIH<br><br>C/O TO 10,006 ', CIRC CLN, L/D 41 JTS. LAND TBG ON 274 JTS 23/8 P-110. ND BOPS NU WH, TEST FLOW LINE TO 4,000 PSI, PUMP OFF BIT, TURN WELL OVER TO FB CREW. WIND BLOWING TO HARD TO RIG DWN SDFN.<br><br>KB= 26' ( SURFOPEN W/ POPOFF )<br>HANGER = .83' SICP 2100 PSI, FTP 100 PSI<br>274 JTS 23/8 P-110 = 8686.51'<br>POBS W/ 1.875 X/N = 2.20'<br>EOT @ 8715.54'<br><br>TWTR 10,565 BBLS<br>TWR 1,000 BBLS<br>TWLTR 9565 BBLS<br><br>327 JTS IN WELL<br>274 LANDED<br>53 TO RETURN |
| | 12:00 - | | COMP | 50 | | | | WELL TURNED TO SALES @ 1200 HR ON 6/26/2012 - 960 MCFD, 1920 BWPD, FCP 2180#, FTP 1700#, 20/64 CK |
| 6/30/2012 | 7:00 - | | | 50 | | | | WELL IP'D ON 6/30/12 - 2758 MCFD, 0 BOPD, 240 BWPD, CP 1674#, FTP 1762#, CK 20/64", LP 0#, 24 HRS |
| 7/1/2012 | - | | | | | | | |

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-9C Pad
Well: NBU 1022-9C3CS
Wellbore: NBU 1022-9C3CS
Section:
SHL:
Design: NBU 1022-9C3CS (wp02)
Latitude: 39.970146
Longitude: -109.444349
GL: 5191.00
KB: 26' RKB + GL @ 5217.00ft (H&P 298)

**FORMATION TOP DETAILS**

| TVDPath | MDPath | Formation |
|---|---|---|
| 1971.00 | 2041.52 | MAHOGANY |
| 4344.00 | 4577.61 | WASATCH |
| 4944.00 | 5180.11 | top of cylinder |
| 6826.00 | 7062.14 | MESAVERDE |
| 8942.00 | 9178.16 | SEGO |
| 9044.00 | 9280.16 | CASTLEGATE |
| 9464.00 | 9700.17 | BLACKHAWK |

**WELL DETAILS: NBU 1022-9C3CS**

| +N/-S | +E/-W | Northing | Ground Level: Easting | 5191.00 Latitude | Longitude | Slot |
|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 14518975.22 | 2076288.79 | 39.970146 | -109.444349 | |

**CASING DETAILS**

| TVD | MD | Name | Size |
|---|---|---|---|
| 2429.51 | 2536.72 | 8-5/8" | 8-5/8 |

T M

Azimuths to True North
Magnetic North: 10.96°

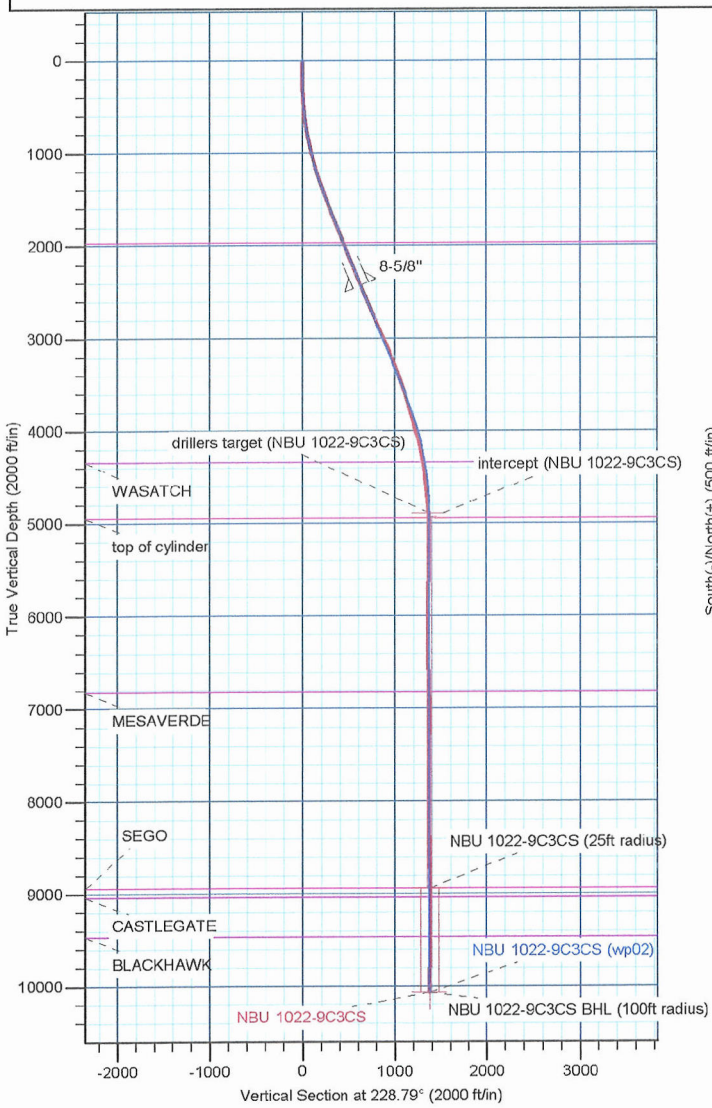
Magnetic Field
Strength: 52254.1snT
Dip Angle: 65.84°
Date: 2/7/2012
Model: IGRF2010

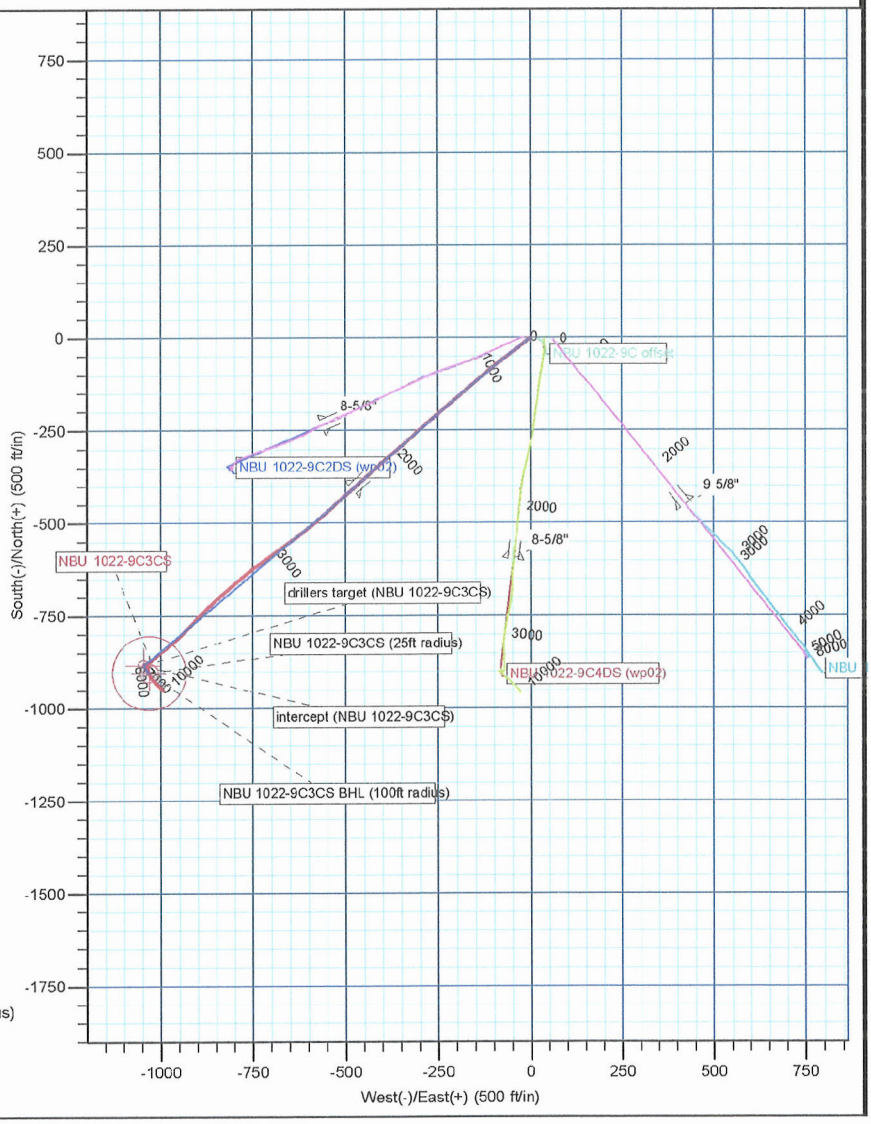
**DESIGN TARGET DETAILS**

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|---|---|---|---|---|---|---|---|---|
| drillers target (NBU 1022-9C3CS) | 4886.00 | -883.95 | -1047.17 | 14518073.14 | 2075257.20 | 39.967719 | -109.448086 | Circle (Radius: 15.00) |
| intercept (NBU 1022-9C3CS) | 4944.00 | -884.02 | -1047.12 | 14518073.07 | 2075257.25 | 39.967719 | -109.448085 | Point |
| NBU 1022-9C3CS (25ft radius) | 8942.00 | -903.95 | -1032.17 | 14518053.40 | 2075272.55 | 39.967664 | -109.448032 | Circle (Radius: 25.00) |
| NBU 1022-9C3CS BHL (100ft radius) | 10064.00 | -903.95 | -1032.17 | 14518053.40 | 2075272.55 | 39.967664 | -109.448032 | Circle (Radius: 100.00) |

**SECTION DETAILS**

| MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSect |
|---|---|---|---|---|---|---|---|---|
| 2535.00 | 22.60 | 227.53 | 2427.92 | -407.71 | -480.39 | 0.00 | 0.00 | 630.01 |
| 2685.00 | 22.60 | 227.53 | 2566.40 | -446.63 | -522.91 | 0.00 | 0.00 | 687.64 |
| 2741.54 | 22.11 | 230.21 | 2618.69 | -460.77 | -539.10 | 2.00 | 116.98 | 709.14 |
| 3858.76 | 22.11 | 230.21 | 3653.76 | -729.88 | -862.19 | 0.00 | 0.00 | 1129.49 |
| 5122.11 | 0.00 | 0.00 | 4886.00 | -883.95 | -1047.17 | 1.75 | 180.00 | 1370.15 |
| 5215.17 | 0.28 | 143.13 | 4979.05 | -884.13 | -1047.03 | 0.30 | 143.13 | 1370.17 |
| 10300.18 | 0.28 | 143.13 | 10064.00 | -903.95 | -1032.17 | 0.00 | 0.00 | 1372.04 |



# US ROCKIES REGION PLANNING

**UTAH - UTM (feet), NAD27, Zone 12N**
**UINTAH_NBU 1022-9C Pad**
**NBU 1022-9C3CS**

**NBU 1022-9C3CS**

**Design: NBU 1022-9C3CS**

# Standard Survey Report

**17 April, 2012**

# Anadarko Petroleum Corp

Survey Report

| | | | |
|---|---|---|---|
| **Company:** | US ROCKIES REGION PLANNING | **Local Co-ordinate Reference:** | Well NBU 1022-9C3CS |
| **Project:** | UTAH - UTM (feet), NAD27, Zone 12N | **TVD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Site:** | UINTAH_NBU 1022-9C Pad | **MD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Well:** | NBU 1022-9C3CS | **North Reference:** | True |
| **Wellbore:** | NBU 1022-9C3CS | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | NBU 1022-9C3CS | **Database:** | edmp |

| | | | |
|---|---|---|---|
| **Project** | UTAH - UTM (feet), NAD27, Zone 12N | | |
| **Map System:** | Universal Transverse Mercator (US Survey Feet) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | Zone 12N (114 W to 108 W) | | |

| | | | | | |
|---|---|---|---|---|---|
| **Site** | UINTAH_NBU 1022-9C Pad | | | | |
| **Site Position:** | | **Northing:** | 14,518,973.36 usft | **Latitude:** | 39.970138 |
| **From:** | Lat/Long | **Easting:** | 2,076,348.80 usft | **Longitude:** | -109.444135 |
| **Position Uncertainty:** | 0.00 ft | **Slot Radius:** | 13-3/16 " | **Grid Convergence:** | 1.00 ° |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well** | NBU 1022-9C3CS | | | | | |
| **Well Position** | **+N/-S** | 0.00 ft | **Northing:** | 14,518,975.23 usft | **Latitude:** | 39.970146 |
| | **+E/-W** | 0.00 ft | **Easting:** | 2,076,288.78 usft | **Longitude:** | -109.444349 |
| **Position Uncertainty** | | 0.00 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 5,191.00 ft |

| | | | | | |
|---|---|---|---|---|---|
| **Wellbore** | NBU 1022-9C3CS | | | | |
| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
| | IGRF2010 | 2/7/2012 | 10.96 | 65.84 | 52,254 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Design** | NBU 1022-9C3CS | | | | | |
| **Audit Notes:** | | | | | | |
| **Version:** | 1.0 | **Phase:** | ACTUAL | **Tie On Depth:** | | 17.00 |
| **Vertical Section:** | **Depth From (TVD) (ft)** | **+N/-S (ft)** | **+E/-W (ft)** | **Direction (°)** | | |
| | 17.00 | 0.00 | 0.00 | 228.79 | | |

**Survey Program** **Date** 4/11/2012

| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 252.00 | 2,535.00 | Survey #1 (NBU 1022-9C3CS) | MWD | MWD - STANDARD |
| 2,561.00 | 10,300.00 | Survey #2 (NBU 1022-9C3CS) | MWD | MWD - STANDARD |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 17.00 | 0.00 | 0.00 | 17.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 252.00 | 0.17 | 298.97 | 252.00 | 0.17 | -0.31 | 0.12 | 0.07 | 0.07 | 0.00 |
| 343.00 | 1.25 | 229.09 | 342.99 | -0.42 | -1.17 | 1.16 | 1.32 | 1.19 | -76.79 |
| 433.00 | 2.73 | 227.26 | 432.94 | -2.51 | -3.49 | 4.28 | 1.65 | 1.64 | -2.03 |
| 527.00 | 4.62 | 228.97 | 526.74 | -6.52 | -7.99 | 10.30 | 2.01 | 2.01 | 1.82 |
| 620.00 | 6.42 | 230.07 | 619.30 | -12.31 | -14.80 | 19.25 | 1.94 | 1.94 | 1.18 |
| 715.00 | 8.79 | 233.85 | 713.46 | -20.01 | -24.74 | 31.79 | 2.55 | 2.49 | 3.98 |
| 809.00 | 10.83 | 233.50 | 806.08 | -29.50 | -37.64 | 47.75 | 2.17 | 2.17 | -0.37 |
| 903.00 | 12.57 | 232.36 | 898.13 | -41.00 | -52.84 | 66.76 | 1.87 | 1.85 | -1.21 |
| 997.00 | 14.33 | 231.57 | 989.54 | -54.48 | -70.05 | 88.59 | 1.88 | 1.87 | -0.84 |

# Anadarko Petroleum Corp

Survey Report

| | | | |
|---|---|---|---|
| **Company:** | US ROCKIES REGION PLANNING | **Local Co-ordinate Reference:** | Well NBU 1022-9C3CS |
| **Project:** | UTAH - UTM (feet), NAD27, Zone 12N | **TVD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Site:** | UINTAH_NBU 1022-9C Pad | **MD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Well:** | NBU 1022-9C3CS | **North Reference:** | True |
| **Wellbore:** | NBU 1022-9C3CS | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | NBU 1022-9C3CS | **Database:** | edmp |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 1,090.00 | 16.00 | 230.87 | 1,079.30 | -69.72 | -89.01 | 112.90 | 1.81 | 1.80 | -0.75 |
| 1,182.00 | 17.41 | 231.22 | 1,167.42 | -86.34 | -109.58 | 139.32 | 1.54 | 1.53 | 0.38 |
| 1,277.00 | 18.91 | 230.07 | 1,257.68 | -105.13 | -132.46 | 168.91 | 1.62 | 1.58 | -1.21 |
| 1,371.00 | 19.61 | 230.51 | 1,346.42 | -124.93 | -156.32 | 199.91 | 0.76 | 0.74 | 0.47 |
| 1,466.00 | 20.31 | 229.46 | 1,435.71 | -145.79 | -181.15 | 232.33 | 0.83 | 0.74 | -1.11 |
| 1,561.00 | 21.10 | 229.81 | 1,524.58 | -167.54 | -206.74 | 265.91 | 0.84 | 0.83 | 0.37 |
| 1,656.00 | 20.94 | 228.64 | 1,613.26 | -189.79 | -232.55 | 299.98 | 0.47 | -0.17 | -1.23 |
| 1,752.00 | 21.63 | 227.35 | 1,702.71 | -213.12 | -258.44 | 334.83 | 0.87 | 0.72 | -1.34 |
| 1,848.00 | 22.78 | 229.83 | 1,791.59 | -237.09 | -285.65 | 371.10 | 1.55 | 1.20 | 2.58 |
| 1,940.00 | 21.72 | 227.88 | 1,876.74 | -260.00 | -311.89 | 405.93 | 1.40 | -1.15 | -2.12 |
| 2,035.00 | 21.86 | 228.23 | 1,964.95 | -283.57 | -338.12 | 441.19 | 0.20 | 0.15 | 0.37 |
| 2,130.00 | 21.90 | 230.07 | 2,053.11 | -306.73 | -364.90 | 476.59 | 0.72 | 0.04 | 1.94 |
| 2,223.00 | 22.25 | 229.99 | 2,139.29 | -329.18 | -391.68 | 511.53 | 0.38 | 0.38 | -0.09 |
| 2,319.00 | 22.25 | 228.40 | 2,228.14 | -352.93 | -419.20 | 547.88 | 0.63 | 0.00 | -1.66 |
| 2,414.00 | 22.32 | 228.79 | 2,316.05 | -376.76 | -446.22 | 583.90 | 0.17 | 0.07 | 0.41 |
| 2,508.00 | 22.42 | 227.17 | 2,402.98 | -400.70 | -472.79 | 619.67 | 0.66 | 0.11 | -1.72 |
| 2,535.00 | 22.60 | 227.53 | 2,427.92 | -407.71 | -480.39 | 630.01 | 0.84 | 0.67 | 1.33 |
| **tie on** | | | | | | | | | |
| 2,561.00 | 22.76 | 227.62 | 2,451.91 | -414.47 | -487.79 | 640.03 | 0.63 | 0.62 | 0.35 |
| 2,656.00 | 24.00 | 227.90 | 2,539.11 | -439.81 | -515.70 | 677.72 | 1.31 | 1.31 | 0.29 |
| 2,750.00 | 22.38 | 228.12 | 2,625.51 | -464.57 | -543.21 | 714.73 | 1.73 | -1.72 | 0.23 |
| 2,845.00 | 21.38 | 229.12 | 2,713.66 | -487.98 | -569.77 | 750.13 | 1.12 | -1.05 | 1.05 |
| 2,939.00 | 22.75 | 232.49 | 2,800.78 | -510.26 | -597.15 | 785.41 | 1.98 | 1.46 | 3.59 |
| 3,034.00 | 24.56 | 231.99 | 2,887.80 | -533.61 | -627.28 | 823.45 | 1.92 | 1.91 | -0.53 |
| 3,128.00 | 25.50 | 234.24 | 2,972.97 | -557.46 | -659.09 | 863.10 | 1.42 | 1.00 | 2.39 |
| 3,223.00 | 24.06 | 234.37 | 3,059.22 | -580.70 | -691.43 | 902.73 | 1.52 | -1.52 | 0.14 |
| 3,317.00 | 22.88 | 234.12 | 3,145.44 | -602.57 | -721.81 | 940.00 | 1.26 | -1.26 | -0.27 |
| 3,411.00 | 21.31 | 233.87 | 3,232.53 | -623.35 | -750.41 | 975.21 | 1.67 | -1.67 | -0.27 |
| 3,506.00 | 20.19 | 231.37 | 3,321.37 | -643.77 | -777.16 | 1,008.78 | 1.50 | -1.18 | -2.63 |
| 3,604.00 | 18.88 | 227.87 | 3,413.73 | -664.96 | -802.13 | 1,041.54 | 1.79 | -1.34 | -3.57 |
| 3,695.00 | 18.63 | 228.37 | 3,499.90 | -684.49 | -823.92 | 1,070.79 | 0.33 | -0.27 | 0.55 |
| 3,789.00 | 18.25 | 227.87 | 3,589.07 | -704.34 | -846.06 | 1,100.52 | 0.44 | -0.40 | -0.53 |
| 3,884.00 | 18.19 | 226.24 | 3,679.31 | -724.58 | -867.80 | 1,130.21 | 0.54 | -0.06 | -1.72 |
| 3,978.00 | 16.94 | 225.49 | 3,768.93 | -744.33 | -888.16 | 1,158.54 | 1.35 | -1.33 | -0.80 |
| 4,073.00 | 16.63 | 224.24 | 3,859.88 | -763.77 | -907.51 | 1,185.91 | 0.50 | -0.33 | -1.32 |
| 4,167.00 | 15.06 | 225.49 | 3,950.31 | -781.97 | -925.61 | 1,211.51 | 1.71 | -1.67 | 1.33 |
| 4,261.00 | 15.31 | 224.99 | 4,041.02 | -799.30 | -943.09 | 1,236.08 | 0.30 | 0.27 | -0.53 |
| 4,356.00 | 13.31 | 229.87 | 4,133.08 | -815.22 | -960.32 | 1,259.54 | 2.46 | -2.11 | 5.14 |
| 4,450.00 | 11.16 | 229.07 | 4,224.93 | -828.16 | -975.47 | 1,279.45 | 2.29 | -2.29 | -0.85 |
| 4,545.00 | 9.38 | 229.37 | 4,318.41 | -839.22 | -988.29 | 1,296.39 | 1.87 | -1.87 | 0.32 |
| 4,639.00 | 8.13 | 230.49 | 4,411.31 | -848.44 | -999.23 | 1,310.69 | 1.34 | -1.33 | 1.19 |
| 4,733.00 | 7.44 | 231.87 | 4,504.45 | -856.43 | -1,009.15 | 1,323.41 | 0.76 | -0.73 | 1.47 |
| 4,828.00 | 6.88 | 230.62 | 4,598.70 | -863.84 | -1,018.39 | 1,335.24 | 0.61 | -0.59 | -1.32 |

# Anadarko Petroleum Corp

Survey Report

| | | | |
|---|---|---|---|
| **Company:** | US ROCKIES REGION PLANNING | **Local Co-ordinate Reference:** | Well NBU 1022-9C3CS |
| **Project:** | UTAH - UTM (feet), NAD27, Zone 12N | **TVD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Site:** | UINTAH_NBU 1022-9C Pad | **MD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Well:** | NBU 1022-9C3CS | **North Reference:** | True |
| **Wellbore:** | NBU 1022-9C3CS | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | NBU 1022-9C3CS | **Database:** | edmp |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 4,922.00 | 6.06 | 229.24 | 4,692.10 | -870.65 | -1,026.50 | 1,345.83 | 0.89 | -0.87 | -1.47 |
| 5,016.00 | 4.38 | 236.62 | 4,785.71 | -875.86 | -1,033.25 | 1,354.35 | 1.92 | -1.79 | 7.85 |
| 5,111.00 | 3.88 | 237.99 | 4,880.47 | -879.56 | -1,039.01 | 1,361.12 | 0.54 | -0.53 | 1.44 |
| 5,117.04 | 3.79 | 238.57 | 4,886.50 | -879.77 | -1,039.35 | 1,361.52 | 1.61 | -1.47 | 9.53 |
| **drillers target (NBU 1022-9C3CS)** | | | | | | | | | |
| 5,174.95 | 2.96 | 245.81 | 4,944.30 | -881.39 | -1,042.35 | 1,364.83 | 1.61 | -1.43 | 12.51 |
| **intercept (NBU 1022-9C3CS)** | | | | | | | | | |
| 5,205.00 | 2.56 | 251.37 | 4,974.32 | -881.92 | -1,043.69 | 1,366.20 | 1.61 | -1.34 | 18.50 |
| 5,300.00 | 1.13 | 291.87 | 5,069.27 | -882.25 | -1,046.57 | 1,368.58 | 1.95 | -1.51 | 42.63 |
| 5,394.00 | 0.88 | 61.62 | 5,163.26 | -881.56 | -1,046.80 | 1,368.29 | 1.94 | -0.27 | 138.03 |
| 5,489.00 | 1.19 | 77.99 | 5,258.25 | -881.01 | -1,045.19 | 1,366.72 | 0.45 | 0.33 | 17.23 |
| 5,583.00 | 1.31 | 93.99 | 5,352.22 | -880.88 | -1,043.16 | 1,365.11 | 0.39 | 0.13 | 17.02 |
| 5,676.00 | 1.56 | 101.49 | 5,445.19 | -881.20 | -1,040.86 | 1,363.60 | 0.34 | 0.27 | 8.06 |
| 5,772.00 | 1.56 | 111.24 | 5,541.16 | -881.94 | -1,038.36 | 1,362.20 | 0.28 | 0.00 | 10.16 |
| 5,867.00 | 0.69 | 102.99 | 5,636.14 | -882.54 | -1,036.60 | 1,361.27 | 0.93 | -0.92 | -8.68 |
| 5,961.00 | 0.94 | 107.12 | 5,730.13 | -882.89 | -1,035.31 | 1,360.53 | 0.27 | 0.27 | 4.39 |
| 6,056.00 | 1.00 | 121.99 | 5,825.12 | -883.56 | -1,033.87 | 1,359.88 | 0.27 | 0.06 | 15.65 |
| 6,150.00 | 0.50 | 273.74 | 5,919.11 | -883.97 | -1,033.58 | 1,359.94 | 1.55 | -0.53 | 161.44 |
| 6,245.00 | 0.31 | 259.12 | 6,014.11 | -883.99 | -1,034.25 | 1,360.45 | 0.23 | -0.20 | -15.39 |
| 6,339.00 | 0.44 | 214.37 | 6,108.11 | -884.33 | -1,034.70 | 1,361.02 | 0.33 | 0.14 | -47.61 |
| 6,434.00 | 0.44 | 213.74 | 6,203.11 | -884.94 | -1,035.11 | 1,361.73 | 0.01 | 0.00 | -0.66 |
| 6,528.00 | 1.13 | 280.49 | 6,297.10 | -885.07 | -1,036.22 | 1,362.65 | 1.10 | 0.73 | 71.01 |
| 6,622.00 | 1.00 | 289.49 | 6,391.08 | -884.63 | -1,037.90 | 1,363.63 | 0.22 | -0.14 | 9.57 |
| 6,717.00 | 0.75 | 287.99 | 6,486.07 | -884.16 | -1,039.28 | 1,364.35 | 0.26 | -0.26 | -1.58 |
| 6,811.00 | 0.75 | 270.87 | 6,580.06 | -883.96 | -1,040.48 | 1,365.12 | 0.24 | 0.00 | -18.21 |
| 6,906.00 | 0.63 | 234.99 | 6,675.06 | -884.25 | -1,041.53 | 1,366.10 | 0.46 | -0.13 | -37.77 |
| 7,000.00 | 0.69 | 197.12 | 6,769.05 | -885.09 | -1,042.12 | 1,367.10 | 0.46 | 0.06 | -40.29 |
| 7,095.00 | 0.94 | 167.24 | 6,864.04 | -886.39 | -1,042.11 | 1,367.96 | 0.51 | 0.26 | -31.45 |
| 7,189.00 | 0.63 | 165.74 | 6,958.03 | -887.65 | -1,041.82 | 1,368.56 | 0.33 | -0.33 | -1.60 |
| 7,284.00 | 0.75 | 286.87 | 7,053.03 | -887.97 | -1,042.28 | 1,369.12 | 1.27 | 0.13 | 127.51 |
| 7,378.00 | 1.50 | 341.74 | 7,147.01 | -886.62 | -1,043.26 | 1,368.97 | 1.31 | 0.80 | 58.37 |
| 7,473.00 | 1.38 | 352.24 | 7,241.98 | -884.31 | -1,043.80 | 1,367.85 | 0.30 | -0.13 | 11.05 |
| 7,567.00 | 1.06 | 357.74 | 7,335.96 | -882.32 | -1,043.99 | 1,366.68 | 0.36 | -0.34 | 5.85 |
| 7,662.00 | 0.50 | 51.37 | 7,430.95 | -881.18 | -1,043.70 | 1,365.72 | 0.91 | -0.59 | 56.45 |
| 7,756.00 | 1.06 | 102.37 | 7,524.94 | -881.11 | -1,042.53 | 1,364.79 | 0.89 | 0.60 | 54.26 |
| 7,851.00 | 1.00 | 136.37 | 7,619.93 | -881.90 | -1,041.10 | 1,364.23 | 0.64 | -0.06 | 35.79 |
| 7,945.00 | 1.13 | 147.87 | 7,713.91 | -883.28 | -1,040.04 | 1,364.34 | 0.27 | 0.14 | 12.23 |
| 8,039.00 | 1.44 | 163.49 | 7,807.89 | -885.20 | -1,039.21 | 1,364.98 | 0.49 | 0.33 | 16.62 |
| 8,134.00 | 1.63 | 160.24 | 7,902.86 | -887.61 | -1,038.41 | 1,365.98 | 0.22 | 0.20 | -3.42 |
| 8,229.00 | 2.00 | 157.49 | 7,997.81 | -890.42 | -1,037.32 | 1,367.00 | 0.40 | 0.39 | -2.89 |
| 8,323.00 | 1.44 | 169.62 | 8,091.77 | -893.09 | -1,036.48 | 1,368.13 | 0.71 | -0.60 | 12.90 |
| 8,418.00 | 1.31 | 167.74 | 8,186.74 | -895.33 | -1,036.04 | 1,369.27 | 0.14 | -0.14 | -1.98 |
| 8,512.00 | 1.81 | 158.99 | 8,280.70 | -897.76 | -1,035.28 | 1,370.30 | 0.59 | 0.53 | -9.31 |
| 8,606.00 | 2.00 | 156.12 | 8,374.65 | -900.65 | -1,034.08 | 1,371.31 | 0.23 | 0.20 | -3.05 |

# Anadarko Petroleum Corp

Survey Report

| | | | |
|---|---|---|---|
| **Company:** | US ROCKIES REGION PLANNING | **Local Co-ordinate Reference:** | Well NBU 1022-9C3CS |
| **Project:** | UTAH - UTM (feet), NAD27, Zone 12N | **TVD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Site:** | UINTAH_NBU 1022-9C Pad | **MD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Well:** | NBU 1022-9C3CS | **North Reference:** | True |
| **Wellbore:** | NBU 1022-9C3CS | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | NBU 1022-9C3CS | **Database:** | edmp |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 8,701.00 | 2.19 | 153.24 | 8,469.59 | -903.79 | -1,032.59 | 1,372.25 | 0.23 | 0.20 | -3.03 |
| 8,795.00 | 2.44 | 155.12 | 8,563.51 | -907.21 | -1,030.94 | 1,373.26 | 0.28 | 0.27 | 2.00 |
| 8,890.00 | 2.56 | 156.74 | 8,658.42 | -910.99 | -1,029.25 | 1,374.49 | 0.15 | 0.13 | 1.71 |
| 8,984.00 | 2.63 | 156.12 | 8,752.32 | -914.89 | -1,027.55 | 1,375.77 | 0.08 | 0.07 | -0.66 |
| 9,079.00 | 2.44 | 146.24 | 8,847.23 | -918.56 | -1,025.54 | 1,376.69 | 0.50 | -0.20 | -10.40 |
| 9,173.00 | 2.25 | 140.99 | 8,941.15 | -921.66 | -1,023.27 | 1,377.02 | 0.30 | -0.20 | -5.59 |
| 9,173.13 | 2.25 | 140.99 | 8,941.28 | -921.67 | -1,023.27 | 1,377.02 | 0.00 | 0.00 | 0.00 |
| **NBU 1022-9C3CS (25ft radius)** | | | | | | | | | |
| 9,268.00 | 2.06 | 135.12 | 9,036.09 | -924.32 | -1,020.89 | 1,376.98 | 0.31 | -0.20 | -6.19 |
| 9,362.00 | 1.88 | 130.12 | 9,130.03 | -926.51 | -1,018.52 | 1,376.64 | 0.26 | -0.19 | -5.32 |
| 9,452.00 | 1.94 | 132.62 | 9,219.98 | -928.49 | -1,016.27 | 1,376.25 | 0.11 | 0.07 | 2.78 |
| 9,551.00 | 1.75 | 132.74 | 9,318.93 | -930.66 | -1,013.93 | 1,375.91 | 0.19 | -0.19 | 0.12 |
| 9,645.00 | 1.81 | 131.87 | 9,412.88 | -932.62 | -1,011.77 | 1,375.58 | 0.07 | 0.06 | -0.93 |
| 9,740.00 | 1.88 | 130.12 | 9,507.84 | -934.63 | -1,009.46 | 1,375.17 | 0.09 | 0.07 | -1.84 |
| 9,834.00 | 1.94 | 134.62 | 9,601.78 | -936.74 | -1,007.15 | 1,374.82 | 0.17 | 0.06 | 4.79 |
| 9,929.00 | 2.00 | 136.24 | 9,696.73 | -939.06 | -1,004.86 | 1,374.63 | 0.09 | 0.06 | 1.71 |
| 10,023.00 | 2.13 | 136.12 | 9,790.67 | -941.51 | -1,002.51 | 1,374.47 | 0.14 | 0.14 | -0.13 |
| 10,118.00 | 2.25 | 135.24 | 9,885.60 | -944.10 | -999.97 | 1,374.28 | 0.13 | 0.13 | -0.93 |
| 10,213.00 | 2.31 | 135.74 | 9,980.52 | -946.80 | -997.32 | 1,374.06 | 0.07 | 0.06 | 0.53 |
| 10,240.00 | 2.27 | 137.97 | 10,007.50 | -947.59 | -996.59 | 1,374.02 | 0.36 | -0.15 | 8.26 |
| **last mwd survey** | | | | | | | | | |
| 10,294.23 | 2.27 | 137.97 | 10,061.69 | -949.18 | -995.15 | 1,373.99 | 0.00 | 0.00 | 0.00 |
| **NBU 1022-9C3CS BHL (100ft radius)** | | | | | | | | | |
| 10,300.00 | 2.27 | 137.97 | 10,067.45 | -949.35 | -995.00 | 1,373.99 | 0.00 | 0.00 | 0.00 |
| **projection** | | | | | | | | | |

**Design Annotations**

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates +N/-S (ft) | Local Coordinates +E/-W (ft) | Comment |
|---|---|---|---|---|
| 2,535.00 | 2,427.92 | -407.71 | -480.39 | tie on |
| 10,240.00 | 10,007.50 | -947.59 | -996.59 | last mwd survey |
| 10,300.00 | 10,067.45 | -949.35 | -995.00 | projection |

Checked By: _____ Approved By: _____ Date: _____

# US ROCKIES REGION PLANNING

**UTAH - UTM (feet), NAD27, Zone 12N**
**UINTAH_NBU 1022-9C Pad**
**NBU 1022-9C3CS**

**NBU 1022-9C3CS**

**Design: NBU 1022-9C3CS**

# Survey Report - Geographic

**17 April, 2012**

# Anadarko Petroleum Corp

Survey Report - Geographic

| | | | |
|---|---|---|---|
| **Company:** | US ROCKIES REGION PLANNING | **Local Co-ordinate Reference:** | Well NBU 1022-9C3CS |
| **Project:** | UTAH - UTM (feet), NAD27, Zone 12N | **TVD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Site:** | UINTAH_NBU 1022-9C Pad | **MD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Well:** | NBU 1022-9C3CS | **North Reference:** | True |
| **Wellbore:** | NBU 1022-9C3CS | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | NBU 1022-9C3CS | **Database:** | edmp |

| | | | |
|---|---|---|---|
| **Project** | UTAH - UTM (feet), NAD27, Zone 12N | | |
| **Map System:** | Universal Transverse Mercator (US Survey Feet) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | Zone 12N (114 W to 108 W) | | |

| | | | | | |
|---|---|---|---|---|---|
| **Site** | UINTAH_NBU 1022-9C Pad | | | | |
| **Site Position:** | | **Northing:** | 14,518,973.36 usft | **Latitude:** | 39.970138 |
| **From:** | Lat/Long | **Easting:** | 2,076,348.80 usft | **Longitude:** | -109.444135 |
| **Position Uncertainty:** | 0.00 ft | **Slot Radius:** | 13-3/16 " | **Grid Convergence:** | 1.00 ° |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well** | NBU 1022-9C3CS | | | | | |
| **Well Position** | **+N/-S** | 0.00 ft | **Northing:** | 14,518,975.23 usft | **Latitude:** | 39.970146 |
| | **+E/-W** | 0.00 ft | **Easting:** | 2,076,288.78 usft | **Longitude:** | -109.444349 |
| **Position Uncertainty** | | 0.00 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 5,191.00 ft |

| | | | | | |
|---|---|---|---|---|---|
| **Wellbore** | NBU 1022-9C3CS | | | | |
| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
| | IGRF2010 | 2/7/2012 | 10.96 | 65.84 | 52,254 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Design** | NBU 1022-9C3CS | | | | | |
| **Audit Notes:** | | | | | | |
| **Version:** | 1.0 | **Phase:** | ACTUAL | **Tie On Depth:** | | 17.00 |
| **Vertical Section:** | **Depth From (TVD) (ft)** | **+N/-S (ft)** | **+E/-W (ft)** | **Direction (°)** | | |
| | 17.00 | 0.00 | 0.00 | 228.79 | | |

**Survey Program** **Date** 4/11/2012

| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 252.00 | 2,535.00 | Survey #1 (NBU 1022-9C3CS) | MWD | MWD - STANDARD |
| 2,561.00 | 10,300.00 | Survey #2 (NBU 1022-9C3CS) | MWD | MWD - STANDARD |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 17.00 | 0.00 | 0.00 | 17.00 | 0.00 | 0.00 | 14,518,975.23 | 2,076,288.78 | 39.970146 | -109.444349 |
| 252.00 | 0.17 | 298.97 | 252.00 | 0.17 | -0.31 | 14,518,975.39 | 2,076,288.47 | 39.970147 | -109.444350 |
| 343.00 | 1.25 | 229.09 | 342.99 | -0.42 | -1.17 | 14,518,974.79 | 2,076,287.62 | 39.970145 | -109.444353 |
| 433.00 | 2.73 | 227.26 | 432.94 | -2.51 | -3.49 | 14,518,972.65 | 2,076,285.34 | 39.970139 | -109.444362 |
| 527.00 | 4.62 | 228.97 | 526.74 | -6.52 | -7.99 | 14,518,968.57 | 2,076,280.91 | 39.970128 | -109.444378 |
| 620.00 | 6.42 | 230.07 | 619.30 | -12.31 | -14.80 | 14,518,962.65 | 2,076,274.20 | 39.970112 | -109.444402 |
| 715.00 | 8.79 | 233.85 | 713.46 | -20.01 | -24.74 | 14,518,954.79 | 2,076,264.40 | 39.970091 | -109.444438 |
| 809.00 | 10.83 | 233.50 | 806.08 | -29.50 | -37.64 | 14,518,945.08 | 2,076,251.66 | 39.970065 | -109.444484 |
| 903.00 | 12.57 | 232.36 | 898.13 | -41.00 | -52.84 | 14,518,933.31 | 2,076,236.67 | 39.970034 | -109.444538 |
| 997.00 | 14.33 | 231.57 | 989.54 | -54.48 | -70.05 | 14,518,919.54 | 2,076,219.69 | 39.969997 | -109.444599 |
| 1,090.00 | 16.00 | 230.87 | 1,079.30 | -69.72 | -89.01 | 14,518,903.96 | 2,076,201.00 | 39.969955 | -109.444667 |

# Anadarko Petroleum Corp

Survey Report - Geographic

| | | | |
|---|---|---|---|
| **Company:** | US ROCKIES REGION PLANNING | **Local Co-ordinate Reference:** | Well NBU 1022-9C3CS |
| **Project:** | UTAH - UTM (feet), NAD27, Zone 12N | **TVD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Site:** | UINTAH_NBU 1022-9C Pad | **MD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Well:** | NBU 1022-9C3CS | **North Reference:** | True |
| **Wellbore:** | NBU 1022-9C3CS | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | NBU 1022-9C3CS | **Database:** | edmp |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 1,182.00 | 17.41 | 231.22 | 1,167.42 | -86.34 | -109.58 | 14,518,886.98 | 2,076,180.73 | 39.969909 | -109.444740 |
| 1,277.00 | 18.91 | 230.07 | 1,257.68 | -105.13 | -132.46 | 14,518,867.80 | 2,076,158.17 | 39.969857 | -109.444822 |
| 1,371.00 | 19.61 | 230.51 | 1,346.42 | -124.93 | -156.32 | 14,518,847.58 | 2,076,134.67 | 39.969803 | -109.444907 |
| 1,466.00 | 20.31 | 229.46 | 1,435.71 | -145.79 | -181.15 | 14,518,826.30 | 2,076,110.20 | 39.969746 | -109.444996 |
| 1,561.00 | 21.10 | 229.81 | 1,524.58 | -167.54 | -206.74 | 14,518,804.10 | 2,076,084.99 | 39.969686 | -109.445087 |
| 1,656.00 | 20.94 | 228.64 | 1,613.26 | -189.79 | -232.55 | 14,518,781.40 | 2,076,059.58 | 39.969625 | -109.445179 |
| 1,752.00 | 21.63 | 227.35 | 1,702.71 | -213.12 | -258.44 | 14,518,757.63 | 2,076,034.10 | 39.969561 | -109.445271 |
| 1,848.00 | 22.78 | 229.83 | 1,791.59 | -237.09 | -285.65 | 14,518,733.18 | 2,076,007.31 | 39.969495 | -109.445369 |
| 1,940.00 | 21.72 | 227.88 | 1,876.74 | -260.00 | -311.89 | 14,518,709.82 | 2,075,981.47 | 39.969432 | -109.445462 |
| 2,035.00 | 21.86 | 228.23 | 1,964.95 | -283.57 | -338.12 | 14,518,685.80 | 2,075,955.66 | 39.969368 | -109.445556 |
| 2,130.00 | 21.90 | 230.07 | 2,053.11 | -306.73 | -364.90 | 14,518,662.18 | 2,075,929.29 | 39.969304 | -109.445651 |
| 2,223.00 | 22.25 | 229.99 | 2,139.29 | -329.18 | -391.68 | 14,518,639.27 | 2,075,902.90 | 39.969242 | -109.445747 |
| 2,319.00 | 22.25 | 228.40 | 2,228.14 | -352.93 | -419.20 | 14,518,615.04 | 2,075,875.81 | 39.969177 | -109.445845 |
| 2,414.00 | 22.32 | 228.79 | 2,316.05 | -376.76 | -446.22 | 14,518,590.74 | 2,075,849.21 | 39.969112 | -109.445942 |
| 2,508.00 | 22.42 | 227.17 | 2,402.98 | -400.70 | -472.79 | 14,518,566.34 | 2,075,823.05 | 39.969046 | -109.446036 |
| 2,535.00 | 22.60 | 227.53 | 2,427.92 | -407.71 | -480.39 | 14,518,559.20 | 2,075,815.57 | 39.969027 | -109.446063 |
| **tie on** | | | | | | | | | |
| 2,561.00 | 22.76 | 227.62 | 2,451.91 | -414.47 | -487.79 | 14,518,552.31 | 2,075,808.29 | 39.969008 | -109.446090 |
| 2,656.00 | 24.00 | 227.90 | 2,539.11 | -439.81 | -515.70 | 14,518,526.49 | 2,075,780.83 | 39.968939 | -109.446189 |
| 2,750.00 | 22.38 | 228.12 | 2,625.51 | -464.57 | -543.21 | 14,518,501.25 | 2,075,753.76 | 39.968871 | -109.446288 |
| 2,845.00 | 21.38 | 229.12 | 2,713.66 | -487.98 | -569.77 | 14,518,477.38 | 2,075,727.61 | 39.968806 | -109.446382 |
| 2,939.00 | 22.75 | 232.49 | 2,800.78 | -510.26 | -597.15 | 14,518,454.62 | 2,075,700.63 | 39.968745 | -109.446480 |
| 3,034.00 | 24.56 | 231.99 | 2,887.80 | -533.61 | -627.28 | 14,518,430.76 | 2,075,670.91 | 39.968681 | -109.446588 |
| 3,128.00 | 25.50 | 234.24 | 2,972.97 | -557.46 | -659.09 | 14,518,406.35 | 2,075,639.52 | 39.968615 | -109.446701 |
| 3,223.00 | 24.06 | 234.37 | 3,059.22 | -580.70 | -691.43 | 14,518,382.56 | 2,075,607.59 | 39.968552 | -109.446816 |
| 3,317.00 | 22.88 | 234.12 | 3,145.44 | -602.57 | -721.81 | 14,518,360.16 | 2,075,577.60 | 39.968492 | -109.446925 |
| 3,411.00 | 21.31 | 233.87 | 3,232.53 | -623.35 | -750.41 | 14,518,338.88 | 2,075,549.36 | 39.968435 | -109.447027 |
| 3,506.00 | 20.19 | 231.37 | 3,321.37 | -643.77 | -777.16 | 14,518,318.00 | 2,075,522.97 | 39.968379 | -109.447122 |
| 3,604.00 | 18.88 | 227.87 | 3,413.73 | -664.96 | -802.13 | 14,518,296.37 | 2,075,498.37 | 39.968320 | -109.447211 |
| 3,695.00 | 18.63 | 228.37 | 3,499.90 | -684.49 | -823.92 | 14,518,276.46 | 2,075,476.93 | 39.968267 | -109.447289 |
| 3,789.00 | 18.25 | 227.87 | 3,589.07 | -704.34 | -846.06 | 14,518,256.23 | 2,075,455.14 | 39.968212 | -109.447368 |
| 3,884.00 | 18.19 | 226.24 | 3,679.31 | -724.58 | -867.80 | 14,518,235.62 | 2,075,433.76 | 39.968157 | -109.447446 |
| 3,978.00 | 16.94 | 225.49 | 3,768.93 | -744.33 | -888.16 | 14,518,215.52 | 2,075,413.74 | 39.968102 | -109.447518 |
| 4,073.00 | 16.63 | 224.24 | 3,859.88 | -763.77 | -907.51 | 14,518,195.75 | 2,075,394.73 | 39.968049 | -109.447588 |
| 4,167.00 | 15.06 | 225.49 | 3,950.31 | -781.97 | -925.61 | 14,518,177.23 | 2,075,376.96 | 39.967999 | -109.447652 |
| 4,261.00 | 15.31 | 224.99 | 4,041.02 | -799.30 | -943.09 | 14,518,159.59 | 2,075,359.78 | 39.967951 | -109.447714 |
| 4,356.00 | 13.31 | 229.87 | 4,133.08 | -815.22 | -960.32 | 14,518,143.38 | 2,075,342.83 | 39.967908 | -109.447776 |
| 4,450.00 | 11.16 | 229.07 | 4,224.93 | -828.16 | -975.47 | 14,518,130.18 | 2,075,327.91 | 39.967872 | -109.447830 |
| 4,545.00 | 9.38 | 229.37 | 4,318.41 | -839.22 | -988.29 | 14,518,118.89 | 2,075,315.28 | 39.967842 | -109.447876 |
| 4,639.00 | 8.13 | 230.49 | 4,411.31 | -848.44 | -999.23 | 14,518,109.48 | 2,075,304.50 | 39.967817 | -109.447915 |
| 4,733.00 | 7.44 | 231.87 | 4,504.45 | -856.43 | -1,009.15 | 14,518,101.33 | 2,075,294.73 | 39.967795 | -109.447950 |
| 4,828.00 | 6.88 | 230.62 | 4,598.70 | -863.84 | -1,018.39 | 14,518,093.76 | 2,075,285.62 | 39.967774 | -109.447983 |
| 4,922.00 | 6.06 | 229.24 | 4,692.10 | -870.65 | -1,026.50 | 14,518,086.81 | 2,075,277.63 | 39.967756 | -109.448012 |
| 5,016.00 | 4.38 | 236.62 | 4,785.71 | -875.86 | -1,033.25 | 14,518,081.47 | 2,075,270.97 | 39.967741 | -109.448036 |
| 5,111.00 | 3.88 | 237.99 | 4,880.47 | -879.56 | -1,039.01 | 14,518,077.67 | 2,075,265.28 | 39.967731 | -109.448057 |
| 5,117.04 | 3.79 | 238.57 | 4,886.50 | -879.77 | -1,039.35 | 14,518,077.46 | 2,075,264.94 | 39.967730 | -109.448058 |
| **drillers target (NBU 1022-9C3CS)** | | | | | | | | | |
| 5,174.95 | 2.96 | 245.81 | 4,944.30 | -881.39 | -1,042.35 | 14,518,075.79 | 2,075,261.97 | 39.967726 | -109.448069 |
| **intercept (NBU 1022-9C3CS)** | | | | | | | | | |
| 5,205.00 | 2.56 | 251.37 | 4,974.32 | -881.92 | -1,043.69 | 14,518,075.24 | 2,075,260.64 | 39.967725 | -109.448073 |
| 5,300.00 | 1.13 | 291.87 | 5,069.27 | -882.25 | -1,046.57 | 14,518,074.86 | 2,075,257.76 | 39.967724 | -109.448084 |
| 5,394.00 | 0.88 | 61.62 | 5,163.26 | -881.56 | -1,046.80 | 14,518,075.54 | 2,075,257.52 | 39.967726 | -109.448084 |
| 5,489.00 | 1.19 | 77.99 | 5,258.25 | -881.01 | -1,045.19 | 14,518,076.12 | 2,075,259.12 | 39.967727 | -109.448079 |
| 5,583.00 | 1.31 | 93.99 | 5,352.22 | -880.88 | -1,043.16 | 14,518,076.29 | 2,075,261.15 | 39.967727 | -109.448072 |
| 5,676.00 | 1.56 | 101.49 | 5,445.19 | -881.20 | -1,040.86 | 14,518,076.00 | 2,075,263.45 | 39.967727 | -109.448063 |

# Anadarko Petroleum Corp

Survey Report - Geographic

| | | | |
|---|---|---|---|
| **Company:** | US ROCKIES REGION PLANNING | **Local Co-ordinate Reference:** | Well NBU 1022-9C3CS |
| **Project:** | UTAH - UTM (feet), NAD27, Zone 12N | **TVD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Site:** | UINTAH_NBU 1022-9C Pad | **MD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Well:** | NBU 1022-9C3CS | **North Reference:** | True |
| **Wellbore:** | NBU 1022-9C3CS | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | NBU 1022-9C3CS | **Database:** | edmp |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 5,772.00 | 1.56 | 111.24 | 5,541.16 | -881.94 | -1,038.36 | 14,518,075.31 | 2,075,265.96 | 39.967725 | -109.448054 |
| 5,867.00 | 0.69 | 102.99 | 5,636.14 | -882.54 | -1,036.60 | 14,518,074.74 | 2,075,267.74 | 39.967723 | -109.448048 |
| 5,961.00 | 0.94 | 107.12 | 5,730.13 | -882.89 | -1,035.31 | 14,518,074.41 | 2,075,269.03 | 39.967722 | -109.448044 |
| 6,056.00 | 1.00 | 121.99 | 5,825.12 | -883.56 | -1,033.87 | 14,518,073.77 | 2,075,270.49 | 39.967720 | -109.448038 |
| 6,150.00 | 0.50 | 273.74 | 5,919.11 | -883.97 | -1,033.58 | 14,518,073.37 | 2,075,270.78 | 39.967719 | -109.448037 |
| 6,245.00 | 0.31 | 259.12 | 6,014.11 | -883.99 | -1,034.25 | 14,518,073.33 | 2,075,270.12 | 39.967719 | -109.448040 |
| 6,339.00 | 0.44 | 214.37 | 6,108.11 | -884.33 | -1,034.70 | 14,518,072.98 | 2,075,269.67 | 39.967718 | -109.448041 |
| 6,434.00 | 0.44 | 213.74 | 6,203.11 | -884.94 | -1,035.11 | 14,518,072.37 | 2,075,269.27 | 39.967716 | -109.448043 |
| 6,528.00 | 1.13 | 280.49 | 6,297.10 | -885.07 | -1,036.22 | 14,518,072.22 | 2,075,268.16 | 39.967716 | -109.448047 |
| 6,622.00 | 1.00 | 289.49 | 6,391.08 | -884.63 | -1,037.90 | 14,518,072.63 | 2,075,266.47 | 39.967717 | -109.448053 |
| 6,717.00 | 0.75 | 287.99 | 6,486.07 | -884.16 | -1,039.28 | 14,518,073.07 | 2,075,265.09 | 39.967718 | -109.448058 |
| 6,811.00 | 0.75 | 270.87 | 6,580.06 | -883.96 | -1,040.48 | 14,518,073.25 | 2,075,263.89 | 39.967719 | -109.448062 |
| 6,906.00 | 0.63 | 234.99 | 6,675.06 | -884.25 | -1,041.53 | 14,518,072.94 | 2,075,262.84 | 39.967718 | -109.448066 |
| 7,000.00 | 0.69 | 197.12 | 6,769.05 | -885.09 | -1,042.12 | 14,518,072.10 | 2,075,262.27 | 39.967716 | -109.448068 |
| 7,095.00 | 0.94 | 167.24 | 6,864.04 | -886.39 | -1,042.11 | 14,518,070.79 | 2,075,262.29 | 39.967712 | -109.448068 |
| 7,189.00 | 0.63 | 165.74 | 6,958.03 | -887.65 | -1,041.82 | 14,518,069.54 | 2,075,262.61 | 39.967709 | -109.448067 |
| 7,284.00 | 0.75 | 286.87 | 7,053.03 | -887.97 | -1,042.28 | 14,518,069.21 | 2,075,262.15 | 39.967708 | -109.448068 |
| 7,378.00 | 1.50 | 341.74 | 7,147.01 | -886.62 | -1,043.26 | 14,518,070.54 | 2,075,261.15 | 39.967712 | -109.448072 |
| 7,473.00 | 1.38 | 352.24 | 7,241.98 | -884.31 | -1,043.80 | 14,518,072.84 | 2,075,260.57 | 39.967718 | -109.448074 |
| 7,567.00 | 1.06 | 357.74 | 7,335.96 | -882.32 | -1,043.99 | 14,518,074.83 | 2,075,260.35 | 39.967723 | -109.448074 |
| 7,662.00 | 0.50 | 51.37 | 7,430.95 | -881.18 | -1,043.70 | 14,518,075.97 | 2,075,260.62 | 39.967727 | -109.448073 |
| 7,756.00 | 1.06 | 102.37 | 7,524.94 | -881.11 | -1,042.53 | 14,518,076.06 | 2,075,261.79 | 39.967727 | -109.448069 |
| 7,851.00 | 1.00 | 136.37 | 7,619.93 | -881.90 | -1,041.10 | 14,518,075.30 | 2,075,263.23 | 39.967725 | -109.448064 |
| 7,945.00 | 1.13 | 147.87 | 7,713.91 | -883.28 | -1,040.04 | 14,518,073.94 | 2,075,264.31 | 39.967721 | -109.448060 |
| 8,039.00 | 1.44 | 163.49 | 7,807.89 | -885.20 | -1,039.21 | 14,518,072.04 | 2,075,265.17 | 39.967716 | -109.448057 |
| 8,134.00 | 1.63 | 160.24 | 7,902.86 | -887.61 | -1,038.41 | 14,518,069.63 | 2,075,266.01 | 39.967709 | -109.448055 |
| 8,229.00 | 2.00 | 157.49 | 7,997.81 | -890.42 | -1,037.32 | 14,518,066.85 | 2,075,267.15 | 39.967701 | -109.448051 |
| 8,323.00 | 1.44 | 169.62 | 8,091.77 | -893.09 | -1,036.48 | 14,518,064.19 | 2,075,268.04 | 39.967694 | -109.448048 |
| 8,418.00 | 1.31 | 167.74 | 8,186.74 | -895.33 | -1,036.04 | 14,518,061.96 | 2,075,268.52 | 39.967688 | -109.448046 |
| 8,512.00 | 1.81 | 158.99 | 8,280.70 | -897.76 | -1,035.28 | 14,518,059.54 | 2,075,269.33 | 39.967681 | -109.448043 |
| 8,606.00 | 2.00 | 156.12 | 8,374.65 | -900.65 | -1,034.08 | 14,518,056.67 | 2,075,270.57 | 39.967673 | -109.448039 |
| 8,701.00 | 2.19 | 153.24 | 8,469.59 | -903.79 | -1,032.59 | 14,518,053.56 | 2,075,272.12 | 39.967665 | -109.448034 |
| 8,795.00 | 2.44 | 155.12 | 8,563.51 | -907.21 | -1,030.94 | 14,518,050.18 | 2,075,273.83 | 39.967655 | -109.448028 |
| 8,890.00 | 2.56 | 156.74 | 8,658.42 | -910.99 | -1,029.25 | 14,518,046.42 | 2,075,275.58 | 39.967645 | -109.448022 |
| 8,984.00 | 2.63 | 156.12 | 8,752.32 | -914.89 | -1,027.55 | 14,518,042.55 | 2,075,277.35 | 39.967634 | -109.448016 |
| 9,079.00 | 2.44 | 146.24 | 8,847.23 | -918.56 | -1,025.54 | 14,518,038.91 | 2,075,279.42 | 39.967624 | -109.448009 |
| 9,173.00 | 2.25 | 140.99 | 8,941.15 | -921.66 | -1,023.27 | 14,518,035.86 | 2,075,281.75 | 39.967615 | -109.448001 |
| 9,173.13 | 2.25 | 140.99 | 8,941.28 | -921.67 | -1,023.27 | 14,518,035.85 | 2,075,281.75 | 39.967615 | -109.448001 |
| **NBU 1022-9C3CS (25ft radius)** | | | | | | | | | |
| 9,268.00 | 2.06 | 135.12 | 9,036.09 | -924.32 | -1,020.89 | 14,518,033.24 | 2,075,284.17 | 39.967608 | -109.447992 |
| 9,362.00 | 1.88 | 130.12 | 9,130.03 | -926.51 | -1,018.52 | 14,518,031.09 | 2,075,286.58 | 39.967602 | -109.447984 |
| 9,452.00 | 1.94 | 132.62 | 9,219.98 | -928.49 | -1,016.27 | 14,518,029.15 | 2,075,288.87 | 39.967597 | -109.447976 |
| 9,551.00 | 1.75 | 132.74 | 9,318.93 | -930.66 | -1,013.93 | 14,518,027.03 | 2,075,291.25 | 39.967591 | -109.447967 |
| 9,645.00 | 1.81 | 131.87 | 9,412.88 | -932.62 | -1,011.77 | 14,518,025.10 | 2,075,293.44 | 39.967585 | -109.447959 |
| 9,740.00 | 1.88 | 130.12 | 9,507.84 | -934.63 | -1,009.46 | 14,518,023.13 | 2,075,295.78 | 39.967580 | -109.447951 |
| 9,834.00 | 1.94 | 134.62 | 9,601.78 | -936.74 | -1,007.15 | 14,518,021.06 | 2,075,298.13 | 39.967574 | -109.447943 |
| 9,929.00 | 2.00 | 136.24 | 9,696.73 | -939.06 | -1,004.86 | 14,518,018.78 | 2,075,300.46 | 39.967568 | -109.447935 |
| 10,023.00 | 2.13 | 136.12 | 9,790.67 | -941.51 | -1,002.51 | 14,518,016.38 | 2,075,302.85 | 39.967561 | -109.447926 |
| 10,118.00 | 2.25 | 135.24 | 9,885.60 | -944.10 | -999.97 | 14,518,013.82 | 2,075,305.43 | 39.967554 | -109.447917 |
| 10,213.00 | 2.31 | 135.74 | 9,980.52 | -946.80 | -997.32 | 14,518,011.17 | 2,075,308.13 | 39.967546 | -109.447908 |
| 10,240.00 | 2.27 | 137.97 | 10,007.50 | -947.59 | -996.59 | 14,518,010.40 | 2,075,308.88 | 39.967544 | -109.447905 |
| **last mwd survey** | | | | | | | | | |
| 10,294.23 | 2.27 | 137.97 | 10,061.69 | -949.18 | -995.15 | 14,518,008.83 | 2,075,310.34 | 39.967540 | -109.447900 |
| **NBU 1022-9C3CS BHL (100ft radius)** | | | | | | | | | |

# Anadarko Petroleum Corp

Survey Report - Geographic

| | | | |
|---|---|---|---|
| **Company:** | US ROCKIES REGION PLANNING | **Local Co-ordinate Reference:** | Well NBU 1022-9C3CS |
| **Project:** | UTAH - UTM (feet), NAD27, Zone 12N | **TVD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Site:** | UINTAH_NBU 1022-9C Pad | **MD Reference:** | 26' RKB + GL @ 5217.00ft (H&P 298) |
| **Well:** | NBU 1022-9C3CS | **North Reference:** | True |
| **Wellbore:** | NBU 1022-9C3CS | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | NBU 1022-9C3CS | **Database:** | edmp |

**Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| 10,300.00 | 2.27 | 137.97 | 10,067.45 | -949.35 | -995.00 | 14,518,008.66 | 2,075,310.50 | 39.967539 | -109.447900 |
| projection | | | | | | | | | |

**Design Annotations**

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates +N/-S (ft) | Local Coordinates +E/-W (ft) | Comment |
|---|---|---|---|---|
| 2,535.00 | 2,427.92 | -407.71 | -480.39 | tie on |
| 10,240.00 | 10,007.50 | -947.59 | -996.59 | last mwd survey |
| 10,300.00 | 10,067.45 | -949.35 | -995.00 | projection |

Checked By: _____ Approved By: _____ Date: _____